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Continuous Emission Monitoring Systems Subset (CEMSS) User´s Guide

TRC Environmental Consultants, Inc.
East Hartford, CT

Prepared for

Environmental Protection Agency, Washington, DC.

May 87

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*Continuous Emission
Monitoring Systems
Subset

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16. ABSTRACT

This guide provides instructions for use of the Continuous Emission Monitoring Systems Subset (CEMSS), a data base installed on the EPA NCC IBM computer. Also, major CEMS policy documents are reproduced.

[illegible] p 1-1

17. KEY WORDS AND DOCUMENT ANALYSIS

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Continuous Emission Monitoring System Subset

User's Guide

U.S. ENVIRONMENTAL PROTECTION AGENCY
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Office of Air Quality Planning and Standards
Washington DC 20460

May 1987

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 8 1987

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Continuous Emission Monitoring System Subset (CEMSS) Guidance

FROM: John Rasnic, Chief John Rasnic
Compliance Monitoring Branch
Stationary Source Compliance Division

TO: Regional CDS Managers
Regional CEMS Coordinators

In April we revised the CEMSS and sent the new User's Guide to all Regional CDS managers and CEMS coordinators. Because reviewers agreed that the changes represent major improvement, the revisions should be considered final with an implementation date of July 31, 1987.

The revisions respond to suggestions made at the CEMS technical forum in January, and input received when preliminary system revisions were tested. The major deficiencies addressed are: inappropriate focus on monitor rather than compliance information, unclear description of several data elements, no specification of minimum national reporting requirements, and weak reporting capabilities. Corrections are briefly described below:

STRONGER FOCUS ON COMPLIANCE RATHER THAN MONITOR INFORMATION

The most important change in the CEMSS is the partial incorporation of the Region V conventions, specifically, use of the 'channel' field to separate information concerning different pollutants, and to distinguish between compliance and comment information. We believe that this change will have minimal impact on data input and maintenance while making it much easier for users to query the database for nationwide data for any source-type and/or pollutant (see attached examples of the use of the 'channel' convention). Another Region V convention, identification of CEMSS data by using special point numbers, was not incorporated as a requirement for two reasons. One, the system can work as desired without this convention; and two, several users found the convention conflicted with agreements they had reached with State and local agencies concerning CEMSS data input.

The Region V point convention facilitates description of the emissions points covered by a single EER. Those not using the Region V point convention will need to note via a comment (on card 60) when data for multiple units are combined in one EER.

IMPROVED DOCUMENTATION OF DATA ELEMENTS AND REQUIREMENTS

Other important improvements include clear definition of data elements and specification of required data elements. A brief description of required elements follows. For details see the User Guide and the attached list of mandatory data elements:

Card type 10 should only be submitted the first time a source is entered into CEMSS. The data elements which must be entered on this card are source ID and update code.

Card types 70, 71 and 72 are mandatory. The data elements which must be maintained on these card types are source ID, action number, action type, date achieved, update code, emission point, report quarter, channel, periods code, operating time, reasons values, number of incidents of excess emissions and monitor downtime.

For the optional card types, i.e., 51, 52, 60, and 80, the data elements which must be maintained to make the information useful are source ID, emission point, channel, update code, quarter, and line number.

REPORTING CAPABILITIES

The upgrade also includes a Statistics (Stat) Report which reports on monitor downtime normalized to total operating time. However, the Stat Report does not yet display data from a number of user selected sources in the most effective fashion. It is recommended therefore, that the Stat Report be used on only one source at a time. Your suggestions on improving the Stat Report are requested.

MISCELLANEOUS

In response to multiple requests, we have agreed to reload the existing CEMSS data into the new 'channel' format. This will be done on a State by State basis subject to veto by the Regional CEMS coordinator. The reload will make about 50-60 percent of the EER data meaningful and useful to all users. The data which had been entered more than once (e.g.

for several units reporting in a single EER), and the data which has an indeterminate time period ('P' in the time period field), probably are not meaningful now and will not be meaningful after the upgrade implementation. Bob Bowers at TRC will be available for consultation on procedures for saving this data; but it will be up to each Region to support conversion of this historic data. We do not encourage spending significant resources on correcting historic data.

The EER Review and Use Guidance of October, 1984, allows for engineering judgement of how much process or control equipment failure time is "unacceptable." Accordingly, the revised CEMSS allows for evaluation of "unacceptable" downtime "reasons." While the technical forum reviewers requested removal of these fields, we have since been asked to maintain them for use in coding Da source reports. We have therefore retained the fields while noting, both in the data dictionary and on the coding forms, that use of these fields is optional.

Reviewers noted that the User's Guide is oriented to the Wylbur environment rather than the TSO environment, even though the Agency is moving to TSO in fiscal year 1988. Rather than addressing this concern under the CEMSS development project, SSCD is developing TSO routines for CEMSS as a part of the larger process of preparing TSO routines for the entire CDS user community. You will receive instructions for use of CEMSS in a TSO environment as part of that larger task.

In summary, the upgraded CEMSS responds to many of your requests while remaining, as designed, fundamentally a system to track EER data not used directly for determining compliance.

Please continue to refer questions and comments on CEMSS to Mark Antell at (FTS) 382-2878 or E-Mail Box 6266.

cc: F. Smith, National CDS Manager
L. Paley, National CEMS Coordinator

Attachments:
1. CEMSS Required Data Elements
2. Sample Retrievals Using the 'Channel' Convention
3. CEMS Coordinators (list)

CEMSS REQUIRED DATA ELEMENTS — 3/87
(required cards)

A number of fields must be correctly coded to enter any data from an excess emission report (EER) to the Continuous Emission Monitoring System Subset (CEMSS). These fields are:

CARD	FIELD	SYMBOL	COLUMNS	WHY FIELD IS REQUIRED
10 — This card is only required to add or delete a source to CEMSS:				
10	Source ID		1-13	Defines source.
	Region	REGN	1-2	
	State	STTE	3-4	
	County	CNTY	5-8	
	Source number	SRCE	9-13	
10	Update Code	——	-80-	Update indicator.
70 — Compliance history card:				
70	Source ID		1-13	See above.
70	Action No#	ANUM	18-21	Indicates compliance history.
70	Action Type	ATPE	57-58	"
70	Date Achieved	DTAC	59-63	"
70	Update	——	-80-	See above.
71 — Excess emission reasons card:				
71	Source ID		1-13	See above.
71	Emission Point	PTNO	14-17	"
71	Quarter	RQTR	18-21	Indicates the period which the EER covers.
71	Channel	CHAN	24-26	See above.
71	Periods Code	TIME	-27-	Required to interpret reasons values.
71	Operating Time	OPER	28-33	Required to normalize EER data to % operating time. Defaults to whole quarter.
71	Reasons		34-75	Captures reported EER values. Defaults to 0.
	Start/shut	STAR	34-39	Startup/shutdown.
	Cleaning	SOOT	40-45	Cleaning/soot blowing.
	Unknown	EXUN	46-51	Unknown excess emission cause.
	Control Fail	EQPT	52-57	Control equipment failure.
	Cntrl Fail Unn	EQFU	58-63	Optional engineering judgement.
	Process Probs	PROC	64-69	Process problems.
	Pcss Probs Unn	PRUN	70-75	Optional engineering judgement.
71	Number Incidents	EEIN	76-78	Number of excess emission incidents.
71	Update	——	-80-	See above.

CEMSS REQUIRED DATA ELEMENTS — 3/87
(required cards - continued)

CARD	FIELD	SYMBOL	COLUMNS	WHY FIELD IS REQUIRED
72 — Excess emission reasons (continued) and monitor downtime reasons card:				
72	Source ID		1-13	See above.
72	Emission Point	PTNO	14-17	"
72	Quarter	RQTR	18-21	"
72	Channel	CHAN	24-26	"
72	Reasons		27-68	"
	Fuel Probs	FUEL	27-32	Fuel causing excess emission.
	Other Probs	EEOT	33-38	Other causes excess emission.
	Monitor Malf	MOEQ	39-44	Monitor malf. causes monitor down.
	Non-mon Malf	NMEQ	45-50	Other equipment cause monitor down.
	QA	CALI	51-56	Calibration causes monitor down.
	Unknown	MOUN	57-62	Unknown cause monitor down.
	Other known	MOOT	63-68	Other cause monitor down.
72	Number Incidents	MOIN	69-71	Number incidents monitor down.
72	Update	———	-80-	See above.

CEMSS REQUIRED DATA ELEMENTS — 3/87
(optional cards)

CARD	FIELD	SYMBOL	COLUMNS	WHY FIELD IS REQUIRED

51 — This monitor description card is not required. If submitted, it must have:

51	Source ID		1-13	See above.
51	Emission Point	PTNO	14-17	Defines emission point.
51	Channel	CHAN	24-26	Defines data type.
51	Update	——	-80-	Update flag.

52 — This regulation description card is not required. If submitted, it must have:

52	Source ID		1-13	See above.
52	Emission Point	PTNO	14-17	"
52	Channel	CHAN	24-26	"
52	Update	——	-80-	"

60 — This comments card is not required. If submitted, it must have:

60	Source ID		1-13	See above.
60	Update	——	-80-	"

80 — This comments card is not required. If submitted, it must have:

80	Source ID		1-13	See above.
80	Emission Point	PTNO	14-17	"
80	Quarter	RQTR	18-21	"
80	Channel	CHAN	24-26	"
80	Line No#	——	-27-	Chronological comment number.
80	Update	——	-80-	See above.

SAMPLE RETRIEVALS USING THE 'CHANNEL' CONVENTION

EXAMPLE 1
QUICK LOOK - CONTROL FAILURE CAUSED EXCESS EMISSIONS

```
01 00   SO2 EXCESS EMISSIONS CUASED BY CONTROL FAILURE
10 APST A
10 APST A O
10 CHAN M 299
20 QL
40 SNME RQTR EQPT PEQP
```

EXAMPLE 2
MILESTONE REPORT - NSPS COAL FIRED POWER PLANTS WITH SO2 CEMS

```
01 00   NSPS COAL FIRED POWER PLANTS WITH SO2 CEMS
10 APCD M 9
10 APST A O
10 APST A
10 SCC6 A 101001
10 SCC6 A 101002
10 SCC6 A 101003
10 CHAN G 200
10 CHAN L 299
20 MS
50 STTE CLAS A1   A2   B    UK
```

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SECTION 1.0

INTRODUCTION

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1.0 INTRODUCTION

Continuous Emissions Monitoring System (CEMS) programs provide the basis for the most comprehensive source surveillance networks available to the U.S. Environmental Protection Agency (EPA). The Stationary Source Compliance Division (SSCD), EPA's Regional Offices, and State and local agencies must implement an effective and successful CEMS program for numerous categories of pollutant source. These consist of several New Source Performance Standards (NSPS) sources categories and four categories of State Implementation Plan (SIP) sources. The SIP sources include fossil fuel-fired steam generators, sulfuric and nitric acid plants, and petroleum refineries. A partial listing of CEMS regulations can be found in Pate.*

The CEMS programs will help ensure the necessary reductions of emissions mandated by the Clean Air Act and its amendments. Proper CEMS procedures will contribute to the attainment and maintenance of National Ambient Air Quality Standards.

As part of the CEMS process, stationary sources subject to CEMS requirements submit Excess Emission Reports (EERs). These EERs are submitted generally on a quarterly basis to the appropriate Federal, State, or local enforcement agency. These reports allow enforcement staff to do the following:

- Determine the adequacy of the source's monitoring systems
- Track proper operation and maintenance procedures
- Indicate the procedural compliance of a source with all applicable monitoring requirements.

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*Pate, W.J. Regulation and Resource File of Continuous Monitoring Information. Kilkelly Environmental Associates, Inc. EPA Contract No. 68-01-008. January 1983.

EERs provide vital information to the enforcement staff about malfunctions of control equipment, and they monitor the performance and the duration of emissions that exceed legal limits.

Enforcement staff use the following strategies, which depend on EER data:

- Identify targets for potential enforcement actions by using frequency and duration of excess emissions.
- Measure source compliance by monitoring emissions results.
- Use historic EER data as a basis for changes in source performance, such as the reduction in the number of excesses, the increase in monitor up-time, and the improvement of control equipment.

SSCD has utilized technical reviews of EERs to determine the level of continuous compliance with applicable standards achieved by subject sources. Within the last few years, SSCD has placed an increased emphasis on continuous compliance. Because of the increased number of sources subject to CEMS regulations and the volume and complexity of the data, a subset of the Compliance Data System (CDS) was developed. This system, called the CEMS Subset (CEMSS), provides the capability to maintain and report monitor inventory and summarized EER data. The organization of data in the CEMSS is identical to that in CDS. In addition, the CEMS data is linked to CDS through the same source and point numbers used in CDS. The CEMS data are stored separately from the CDS Masterfile, but the CDS data on the CEMSS Masterfile are always identical to the data on the CDS Masterfile. The CEMSS provides most of the capabilities provided by the basic CDS.

This CEMSS User's Guide is designed to provide EPA management with the information needed to operate and use the CEMSS. Users not already familiar with CDS should review the Compliance Data System User's Guide (EPA-340/1-80-020), as well as this entire manual. Engineers and managers who need to obtain management reports should refer to Section 8.0, Retrieval

Processing, and to Appendix A, the CEMSS Data Dictionary. Data analysts should refer to Section 5.0, Data Input Preparation, and to Appendix A, the CEMSS Data Dictionary. Other helpful portions of this document include Appendix B, Memorandum: Guidance Concerning EPA's Use of Continuous Emission Monitoring Data, Kathleen M. Bennett, August 12, 1982. Appendix C, Final Technical Guidance on the Review and Use of Excess Emissions Reports; Appendix D, Suggested Continuous Emission Monitoring Excess Emissions Report Format; Appendix E, EPA Regional CEMS Contacts, and Appendix F, Changes Incorporated in CEMSS Under the CEMSS Upgrade Task.

Comments and suggestions regarding this manual should be directed to Mr. Mark Antell, the National Continuous Emission Monitoring System Subset Coordinator at FTS 382-2878.

SECTION 2.0

MANAGEMENT OVERVIEW

2.0 MANAGEMENT OVERVIEW

The CEMS Subset was originally developed for the SSCD by TRC, Environmental Consultants, Inc. In 1981, GEOMET Technologies, Inc., was asked to make this system operational and to provide data analysis services for EERs.

In 1985 the CEMS Subset was returned to TRC Environmental Consultants, Inc. at the request of SSCD. TRC's task was:

- To identify and eliminate problems in the operational areas of the CEMS Subset;
- To review "Technical Guidance on Review and Use of Excess Emission Reports (EPA-3410/1-84-015)" to document the information requirements relating to Subpart D sources and modify the CEMSS pursuant to this guidance.
- To modify the CEMS Subset's COBOL programs to track Subpart D, and other sources incorporating the new information requirements;
- To Design an updated Continuous Emission Monitoring Data Form which will contain a new card type (card 72) to allow space for the additional data;
- To design a new CEMSS Report (Retrieval) Request Form consistent with the changes herein;
- To develop new WYLBUR input and Rerieval Exec programs to accommodate the additional data in CEMSS;
- To modify the CEMSS data element, "TIME", to allow for several one letter codes which will represent the time period in which source operating time, durations of excess emissions, and monitor down times are records;
- To modify the CEMS Subset to track number of incidents for excess emissions and monitor down time;
- To modify the STAT Report;
- To add a three element milestone capability;
- To revise the titles and content of "compliance" fields on the DETAIL Report to eliminate the term "compliance";
- To provide documentation explaining the special handling and interpretation of Subpart D data; and
- To provide documentation of the changes made to the subset.

This revised user's guide is the resulting documentation of the above changes.

The primary purpose of the CEMSS is to assist the EPA and other agencies in carrying out their enforcement and surveillance programs. The CEMSS provides users with an effective tool for promptly and efficiently managing large quantities of CEMS-related stationary source information. Output reports from the system enable an agency to (1) maintain a complete inventory of facilities emitting regulated CEMS pollutants, (2) assess compliance and enforcement strategies, (3) monitor the success of continuous emissions monitors in detecting excess emissions, and (4) assess the effectiveness of corrective actions.

2.1 System Purposes

Regional Offices will use CEMSS in a number of ways in their enforcement programs. The CEMSS is used primarily for the following reasons:

- To provide an accurate and easily accessible inventory of facilities subject to CEMS regulations and their compliance status with respect to these regulations.
- To develop enforcement strategies by providing summaries of the compliance status of facilities tracked by the CEMSS.
- To determine the effectiveness of different types of pollution control and continuous monitoring equipment.
- To identify trends in control of emissions and maintenance of monitoring equipment.
- To provide various turnaround reports to be used by states in fulfilling their reporting requirements to the regions.

Appendix B is a memorandum from Kathleen Bennett that addresses EPA's use of CEMS data in enforcement of NSPS and SIP emission and operating and maintenance (O&M) provisions and in other general EPA activities.

2.2 System Capabilities

The CEMSS provides users with the capability to store, update, and retrieve information about all of the facilities placed on the CEMS Masterfile. The CEMSS is used to record information on identified major polluters; it provides information about the various types of monitors used at these facilities; it records the reason and duration for excess emissions; and it helps to track the enforcement actions taken by regulatory agencies against these facilities.

Multiple input record formats are used to enter data into the CEMSS by the Edit Program. The CEMSS tracks specific CEMS data, as well as facility, emission point, and action data maintained by the CDS. All facility data must be entered into CDS, but only monitoring and excess emissions data can be entered into the CEMSS. However, the CEMSS retrieval can print data entered into either CDS or CEMSS for sources subject to CEMS requirements.

The Update Program uses each of the different input record formats to add, change, or delete information on the CEMSS Masterfile. Once data is placed on the CEMSS Masterfile, the Retrieval Program can be used to create a wide variety of management reports based on the data on the Masterfile.

The CEMSS retrieval capabilities are highly flexible. Users can obtain reports based on all data on the CEMSS Masterfile or on only that portion of the data that meet user selection criteria. Four fixed-format reports as well as 2 flexible format reports can be designed to fit any particular user requirements. After a user determines a suitable report format and the portion of the Masterfile that should be included on the report, he or she can specify the sorting criteria for the report. Thus, the data can appear in any desired sequence. Because of this flexibility, the CEMSS adapts easily to changing reporting requirements.

2.3 System Functions

A number of computer programs have been developed to input, update, and retrieve CEMS data. These computer programs and all associated data files are available at the EPA central computer facility. Currently, this facility is operated at the National Computer Center's IBM computer. All regional users have computer terminals connected by telephone lines to the EPA computer in Research Triangle Park, N.C.

Input transactions prepared by regional users or Headquarters can be transmitted at any time to the central computer facility. The Edit Program validates these transactions, and valid transactions are stored for further use in the Update Cycle. An Edit Report showing the Edit's action on each input transaction is returned to the user's terminal after the computer executes the Edit Program. Under normal operating conditions, the national DBC (Data Base Coordinator) schedules the Update Cycle to run weekly. During periods of high data entry activity, especially at the end of each quarter, more frequent updates may be scheduled at the discretion of the DBC. All valid transactions saved since the last update are applied to the CEMSS Masterfile during the Update Cycle.

The Update adds, changes, or deletes data on the Masterfile, based on the Update Code of each transaction. The Update produces an Update Report to show what action it took on each transaction. After each Update Cycle for which the user had input data, the DBC runs the CEMSS Update Report to show which transactions were successfully applied to the CEMSS Masterfile and which had Update errors.

Once data has been applied to the CEMSS Masterfile by the Update, users may request management reports through the Retrieval Program. The Retrieval extracts, sorts, and prints data from the most current version of the CEMSS Masterfile. Requests for retrievals may be made as often as necessary. Under normal operating conditions, quick turnaround is available for short retrievals.

Regional users are responsible for data submission and retrieval requests. For those regions that have an inadequate staff to perform the data reduction and data entry of EERs, contractor assistance is available. The national DBC is responsible for scheduling Update Cycles and for maintaining adequate backup and security for computer programs and files stored at the central computer facility.

The CEMSS is closely associated with the CDS. Both systems use the source, emission point, and action data structure. All current source, point action, and comment data from CDS are picked up during the CEMSS Update Cycle and are merged with the data unique to the CEMSS. Thus, CEMSS retrievals represent a combination of the most recent CDS data together with the excess emission data submitted to the CEMSS. Regular source, point, and CDS action data should be entered directly to CDS; only CEMS action data, monitoring data, and excess emission data should be entered into the CEMSS.

Users are urged to become familiar with the CDS User's Guide (EPA Publication 340/1-87-001) in order to obtain the necessary background information on CDS. Users already familiar with CDS will find the CEMSS easy to use. This user's manual is designed to supplement the CDS User's Guide with features unique to CEMSS data handling problems.

SECTION 3.0

SYSTEM OVERVIEW

3.0 SYSTEM OVERVIEW

The CEMSS provides users with the ability to store, update, and retrieve large quantities of data useful to an enforcement program. To meet these objectives, the CEMSS has been designed to perform three distinct functions: edits, updates, and retrievals.

Users are responsible for preparing data for the CEMSS in order to maintain an up-to-date Masterfile. Once input data have been updated, regional users are responsible for the preparation of all retrieval requests from the system.

National Headquarters' responsibilities include the following:

- Developing and maintaining all CEMSS programs, data sets, and table values
- Scheduling all Update Cycles
- Providing definition and usage of all nationally controlled data elements
- Establishing retrieval guidelines for meeting national reporting requirements
- Providing user training for any region requesting training
- Responding to regional requests for system modifications
- Coordinating the transfer of data between the CEMSS and the CDS.

The following paragraphs describe the edit, update, and retrieval functions; subsequent sections of this manual will describe in detail the operational usage of the computer programs/which perform these functions.

3.1 Edit Program

CEMS data are initially processed for the Masterfile by the CEMSS Edit Program. Regional users gather data concerning sources subject to CEMS requirements, and then prepare this data in a format acceptable to the Edit Program. Multiple fixed-card formats are available to the user for preparing data as input transactions to the Edit Program. Whenever users have a sufficient amount of data to be submitted, they initiate the Edit Program by submitting the keypunched input transactions together with the appropriate Job Control Language (JCL) to their region's computer terminal.

The Edit Program examines every input transaction prepared for the system and produces an Edit Report for each Edit Program that is run. If an input transaction has no edit error messages next to it on the Edit Report, it is a valid transaction. Transactions in error will have one or more edit error messages next to it on the Edit Report. Errors are identified as either "warning" or "fatal".

The Edit Program stores all valid transactions on a disk file until the next scheduled Update Program. One or more fatal errors will prevent a transaction from being saved for the Update Program. A transaction with only warning errors will be saved for the weekly update, but the data elements in error are blanked out.

The Edit Program can be run as often as necessary in between update cycles. Each time that the Edit is run, an Edit Report is immediately produced and sent to regional users for review.

3.1.1 Input Data Processed by the CEMS

Data is input to the Edit Program on punched cards or 80-character card images on tape or disk. There are five card types extended by a level to provide maximum data entry capacity for monitoring and excess emissions data. The five card type groups are cards 1(10), 5(51,52), 6(60), 7(70,71,72), and 8(80). Section 5.0 describes the card formats available to the CEMSS.

The cards provide the following general information:

- Card 10 copies a source from the CDS to the CEMSS or deletes a source from the CEMSS.

- Cards 51 and 52 provide descriptive monitor data for various continuous emission monitors.
- Card 60 is a monitor comment record, which provides additional information for a given monitor.
- Card 70 describes specific CEMS enforcement actions.
- Cards 71 and 72 provide EER summary data for a given monitor.
- Card 80 is an action comment record, which provides additional information for information contained on a Card 70, 71 or 72.

3.1.2 Edits Performed by the CEMS

The CEMSS Edit Program examines and validates all input transactions processed on the multiple fixed-card formats. Errors, classified as either warning or fatal, will appear on the right side of the Edit Report next to the transaction containing the error. Warning errors will have one asterisk preceding the error message--for example, *REASON CODE MUST BE NUMERIC. Fatal errors will have three asterisks preceding the error message--for example, ***INVALID STATE CODE. The data element in error will have asterisks directly beneath it on the Edit Report printout line. A transaction with multiple errors will have multiple error messages.

If an input transaction has no edit error messages next to it on the Edit Report, it is a valid transaction and will be stored on the CEMSS Mod File for processing in the next Update Cycle. One or more fatal errors next to a transaction will cause the transaction to be rejected by the Edit Program. Consequently, a transaction with one or more fatal errors will not be stored for processing by the Update Cycle. A transaction with only warning errors will be stored for processing, but the data elements in error will be blanked out.

All valid CEMSS transactions are stored on the CEMSS Mod File. Only an M3 Action Type (EER submitted) is transferred to the CDS Mod File for updating.

Each card type has its own validation procedure within the Edit Program. Certain data elements, such as County Code, Air Quality Control Region (AQCR), Action Type, Results Code, and Personnel Code, are validated by external table lookup procedures. To make a new code valid for any of these data elements, the national DBC must update the appropriate table so that it will contain the new value. Other data elements, such as Region, State, Reason Code, etc., are validated by internal computer tables. These edits can be changed only by changing the Edit Program logic. Only the national DBC has the authority to change these edits.

Although the Edit examines all input transactions for possible keypunching and coding errors, the program has its limitations. The Edit cannot detect valid but incorrect Update Codes; only the Update Program can determine whether it is possible to add, change, or delete a record on the CEMSS Masterfile. The Edit cannot detect certain errors caused by punching data into the wrong card columns; if a valid date is placed in the Date Achieved columns, but the user meant to place the value in the Date Scheduled columns, the Edit will accept the data element as valid. Even those transactions containing no edit errors should be examined by new users to make sure that they are properly preparing data for the system.

Figure 3-1 is a flow chart of the Edit Program. Input to the Edit consists of the various input card formats together with the appropriate JCL needed to run the program. During the program, a number of external table files are used for validating changeable data elements, such as Action Type. There are four outputs from the program:

- The Edit Report

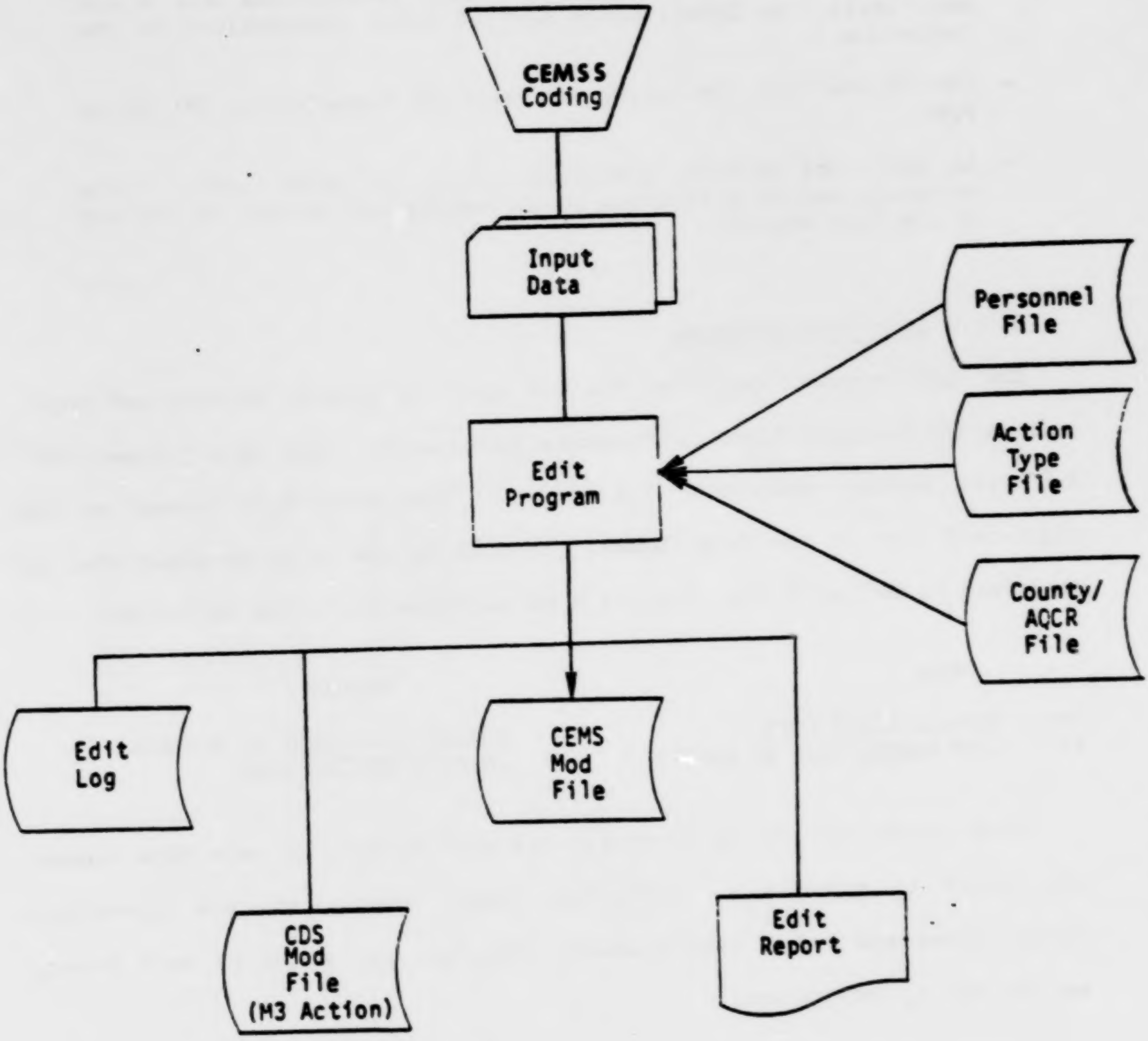

CEMSS Coding
Input Data
Personnel File
Edit Program
Action Type File
County/ AQCR File
Edit Log
CEMS Mod File
CDS Mod File (M3 Action)
Edit Report

Figure 3-1. Edit Flow Chart

- The CEMSS Mod File containing all valid input transactions (With each run of the Edit, additional valid transactions are stored here until the Update Cycle applied these transactions to the Masterfile.)
- The CDS Mod File containing all valid CDS transactions (M3 Action Type)
- An Edit Log showing statistics, such as cards input, cards accepted, and cards rejected (These numbers are printed at the end of the Edit Report).

3.1.3 Edit Error Messages

The Edit Program identifies the two kinds of errors, warning and fatal, made on the multiple fixed-card formats submitted as input data transactions. An error message describing the cause of the error will appear on the right-hand side of the Edit Report, preceded by one or three asterisks, as explained in Section 3.1.2. Typical error messages are listed as follows:

	FATAL		WARNING
***	INVALID STATE CODE	*	REASON FIELD MUST BE NUMERIC
***	LINE NUMBER MUST BE NUMERIC	*	INVALID RESULTS CODE.

Valid values that can be entered on the card formats for each data element are listed in Appendix B. Each data element sheet lists the appropriate coding values and coding considerations necessary for preparing card formats and for making corrections.

3.1.4 CEMS Mod File

The CEMSS Mod File resides on a disk storage device. Input transactions validated by the Edit Program are saved on this file for use by the weekly Update Cycle. At the end of the Update Cycle, the data on the Mod File is erased to make room for input transactions for the next Update Cycle. As Edit Programs are run by the numerous regional users, transactions with nonfatal errors are added to this file. Any number of data submissions may be made to the Edit inbetween one Update Cycle and the next. Each submission adds additional data to the Mod file. At the beginning of the next Update Cycle, the data on the Mod file are copied to magnetic tape. Then the transactions on the file are sorted into order by region, state, county, source, point, and action number. Within this major sort key, transactions are also sorted by Update Code and by chronological order. For transactions with the same record ID (region, state, county, source, point, action number, and channel number), delete transactions are applied first, then new transactions, and finally change transactions. For transactions with the same record ID and the same Update Code, transactions are applied chronologically.

Once a transaction has been added to the Mod File, it is no longer necessary to resubmit the transaction again when additional transactions are being submitted for the same Update Cycle. However, the user should keep input transactions in a file on cards or other information storage device for at least 1 month for security and backup purposes.

3.2 Update Program

The CEMSS is updated periodically by the Update Program. All transactions stored on the CEMSS Mod File by the various runs of the Edit Program are processed by the Update Program. Input to the Update is the current CDS Masterfile, the old CEMSS Masterfile, and the current input transactions placed on the CEMSS Mod File by the Edit Program from all regional users. Output from the Update is an updated CEMSS Masterfile and the Update Reports.

Once the Update Cycle is complete, each regional user who had input data for the Update Program should review the Update Report. This report shows what action the Update Program took on each transaction passed to it by the various Edit runs. Whenever the Update Program cannot process the add, change, or delete a transaction specified by the user, a reject message will explain why the transaction was not applied to the Masterfile.

Transactions stored on the CDS Mod File prior to Wednesday night will be processed by the CDS Update. The CEMSS Update uses the CDS Masterfile to update all related sources on the CEMSS Masterfile.

3.2.1 Update Actions to the CEMS

Card types 51 through 80 processed by the Edit Program are used to add, change, or delete information on the CEMSS Masterfile. The Masterfile contains records that correspond to the input card types. Input transactions perform the following functions:

NEW	When an Update Code 'N' is used in the Update Code column, the input transaction will add a new channel, action, EER, or comment record to the CEMSS Masterfile.
CHANGE	The Update Code 'C' is used to change one or more data elements on an existing Masterfile record.
DELETE	The Update Code 'D' is used to delete one or more Masterfile records for a given facility.

3.2.2 Update Cycle Steps

In addition to applying input transactions to the CEMSS Masterfile, a number of other steps are taken in each Update Cycle:

- Input transactions from the Mod File are saved on tape.
- Input transactions are sorted into the same sequence as the Masterfile.
- CEMSS data are copied from, or updated, by the CDS Masterfile.
- The Mod File transactions are erased to make room for the next cycle's input transactions.

Figure 3-2, Update Flow Chart, shows this process.

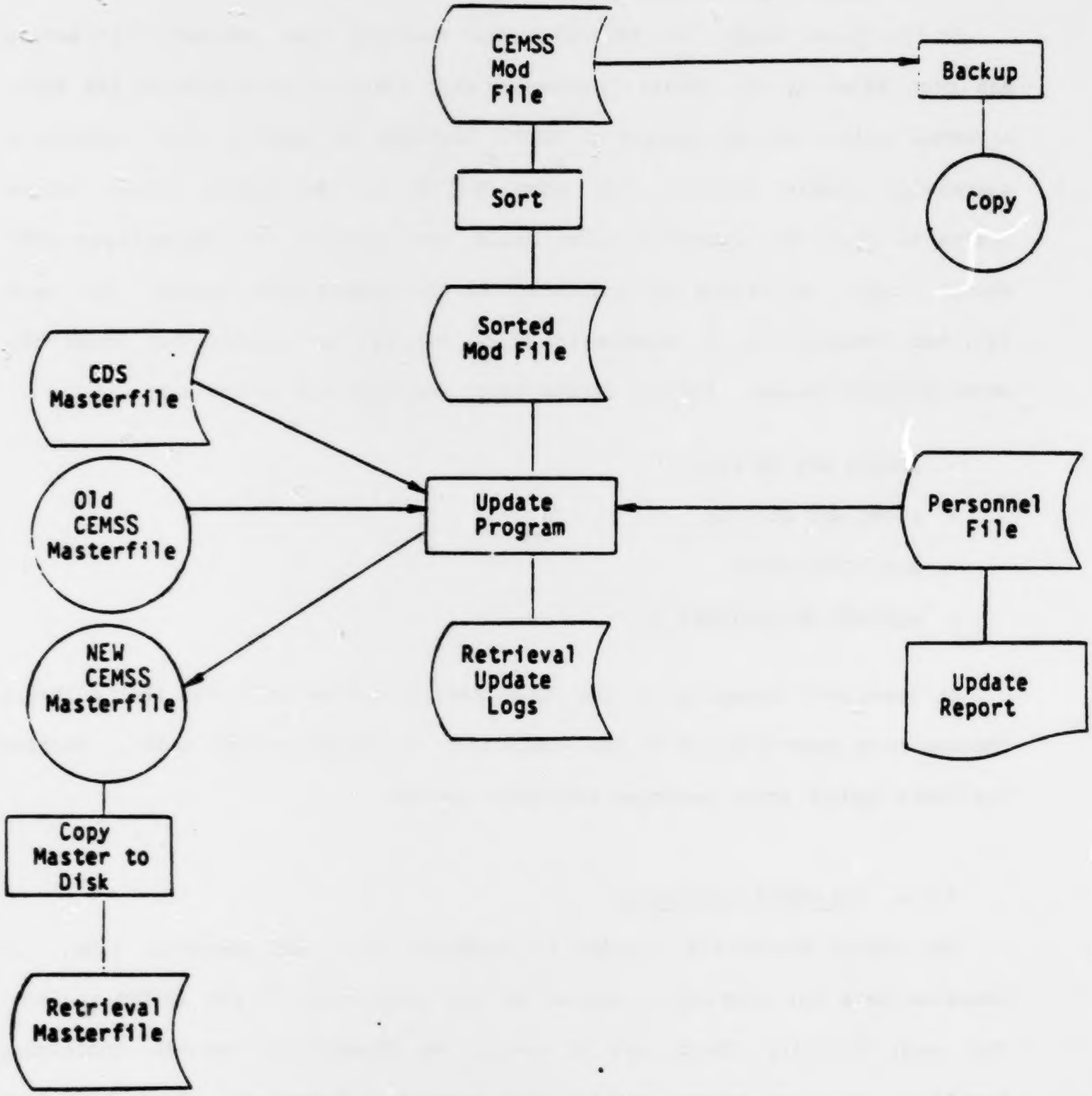

CEMSS Mod File
Backup
Sort
Copy
Sorted Mod File
CDS Masterfile
Update Program
Personnel File
Old CEMSS Masterfile
NEW CEMSS Masterfile
Retrieval Update Logs
Update Report
Copy Master to Disk
Retrieval Masterfile

Figure 3-2. Update Flow Chart

3.2.3 Update Report Messages

On the Update Report are several column headings that indicate what action has been taken by the Update Program on each transaction passed by the Edit. A normal update action message of ADDED, CHANGED, or DELETED will indicate a successful Update Action. The word REJECT in the Update Action column indicates that the Update Program could not perform the appropriate add, change, copy, or delete as indicated in the Update Code column. For each rejected transaction, a diagnostic error message is printed out under the Error Message column. Typical Update error messages are as follows:

- SOURCE NOT ON FILE
- POINT NOT ON FILE
- DUPLICATE TRANS
- ALREADY ON MASTERFILE.

An ampersand appearing in the Error Message column indicates that multiple changes have been applied to the Masterfile in chronological order. Section 7.0 lists Update error messages and their causes.

3.2.4 The CEMSS Masterfile

The CEMSS Masterfile resides on computer disc and magnetic tape. It contains data for stationary sources of air pollution for the 10 EPA regions. For each facility there are a number of Masterfile records containing facility, emission point, action, and comment information. Data from each card type is placed on one of seven Masterfile record formats. These Masterfile record formats are numbered 20, 21, 30, 34, 35, 46, or 47 for internal computer identification purposes. The seven Masterfile record formats contain information as follows:

- Record 20 contains facility-level data from CDS Cards 1 and 2. Each facility has one record 20. Region, state, county, and source numbers identify a unique facility. This data can be entered only through CDS. This data is added to CEMSS by use of a card 10 add transaction.

- Record 21 contains comment information for the facility record. Up to 10 comments may be used for each facility. Each CDS Card 4 added to the Masterfile creates corresponding Record 21. This data can only be entered through CDS.

- Record 30 is the pollutant compliance record. One of these records is present whenever CDS Card 3 input is submitted to CDS. Data for up to 10 pollutants can be placed on this record. This data can be entered only through CDS.

- Record 34 is an emission point record created from the Card 51 and Card 52 input transactions. Each emission point identifies a unique physical point/pollutant/monitor. All emission point records defined for additional pollutants and/or monitors related to a single physical point may be associated by use of the multiple XREF field on a CDS Card 5.

- Record 35 contains comment information for an emission point or monitor. Each may have up to 10 comments. Each Card 60 added to the Masterfile creates a corresponding Record 35.

- Record 46 is an action record created from the Card 70. Card 70 is used to record CEMS/CDS actions; Cards 71 and Card 72 with an action number Quarter Date greater than 0099 record EER summary data.

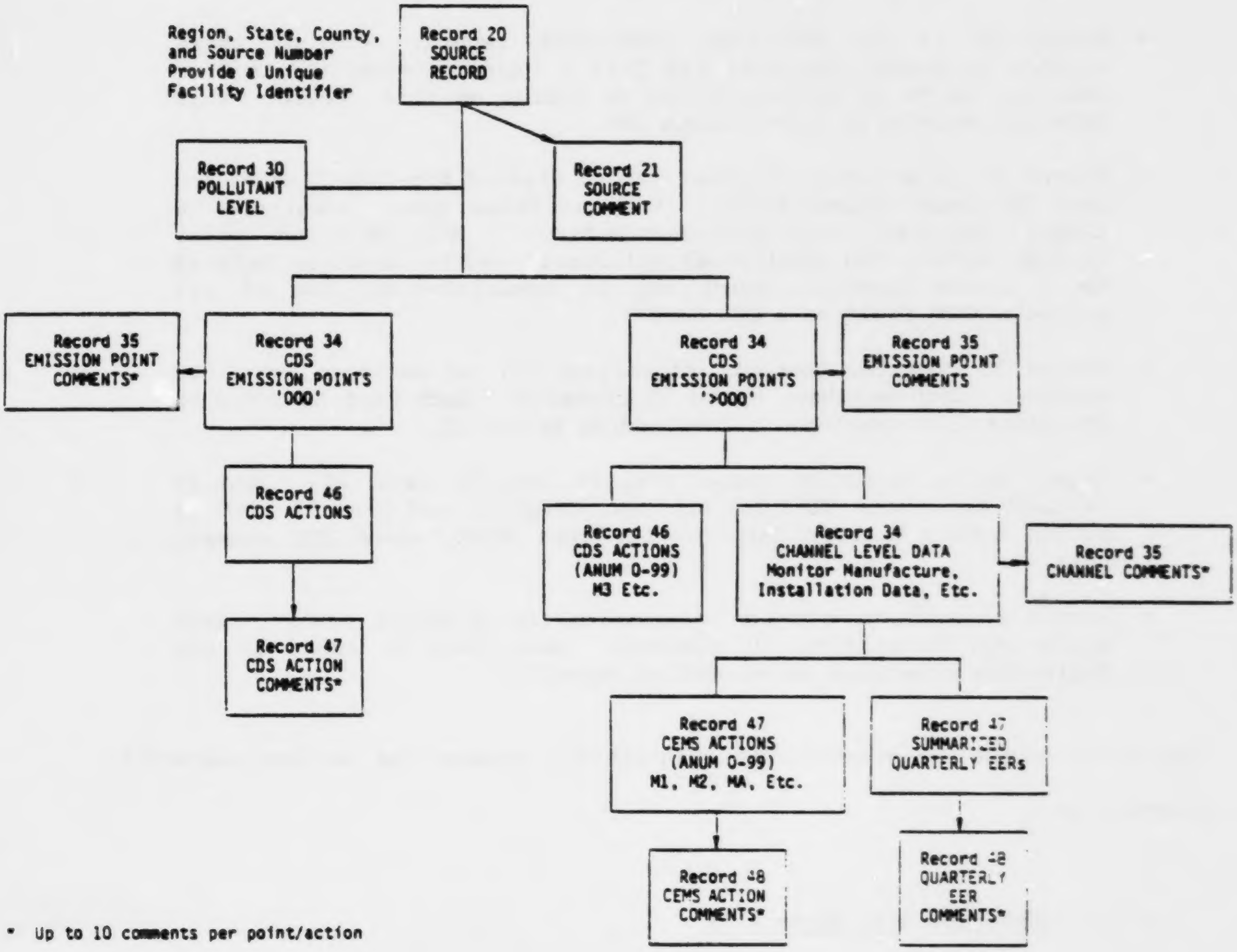
- Record 47 contains comment information for an action record. Each action may have up to 10 comments. Each Card 80 added to the Masterfile creates a corresponding Record 47.

Figure 3-3 shows the hierarchical relationship between the various Masterfile record types.

3.2.5 CEMS Retrieval Masterfile

In one of the last steps of the Update Program, the updated CEMSS Masterfile tape is copied to create a retrieval Masterfile, which resides on a disk storage device. This file contains the most current version of the CEMSS Masterfile. All retrieval requests are based on the data contained on the retrieval Masterfiles.

Users should note that input transactions processed by the Edit are not retrievable until after the transactions have been applied to the retrieval Masterfile by the Update Cycle.


Region, State, County, and Source Number Provide a Unique Facility Identifier
Record 20 SOURCE RECORD
Record 30 POLLUTANT LEVEL
Record 21 SOURCE COMMENT
Record 35 EMISSION POINT COMMENTS*
Record 34 CDS EMISSION POINTS '000'
Record 34 CDS EMISSION POINTS '>000'
Record 35 EMISSION POINT COMMENTS
Record 46 CDS ACTIONS
Record 46 CDS ACTIONS (ANUM 0-99) M3 Etc.
Record 34 CHANNEL LEVEL DATA Monitor Manufacture, Installation Data, Etc.
Record 35 CHANNEL COMMENTS*
Record 47 CDS ACTION COMMENTS*
Record 47 CEMS ACTIONS (ANUM 0-99) M1, M2, MA, Etc.
Record 47 SUMMARIZED QUARTERLY EERs
Record 48 CEMS ACTION COMMENTS*
Record 48 QUARTERLY EER COMMENTS*

* Up to 10 comments per point/action

Figure 3-3. CEMS Masterfile Hierarchy

3.3 Retrieval Program

The CEMSS Retrieval Program is used to prepare management reports based on the CEMSS Masterfile and was designed to meet the specific requests of regional users. All output reports, other than the Edit Report and the Update Report, are available on request from the Retrieval Program. These requests may be made at any time because they are processed independently of the Update Program. The Retrieval Program will produce the following management reports:

- Quick Look Report
- Double-Spaced Quick Look Report
- CEMSS Detail Report
- Source Data Report
- Milestone Report
- CEMSS Statistical (Stat) Report.

These six reports are described in detail in Section 8.1, with examples of each report type.

3.3.1 Retrieval Steps

Each time a user requests a management report through the Retrieval, the following steps are taken by the various computer programs constituting the Retrieval:

- Retrieval selection cards are checked for validity. An Edit Report page is printed to show the logic used in preparing the Retrieval.
- CEMSS Retrieval Masterfile records that satisfy all of the user's selection criteria are placed on a temporary extract file.
- Extracted records are sorted into a user-specified sort order.
- Sorted records are formatted for printing into user-specified print formats.

Figure 3-4, Retrieval Flow Chart, shows this process graphically.

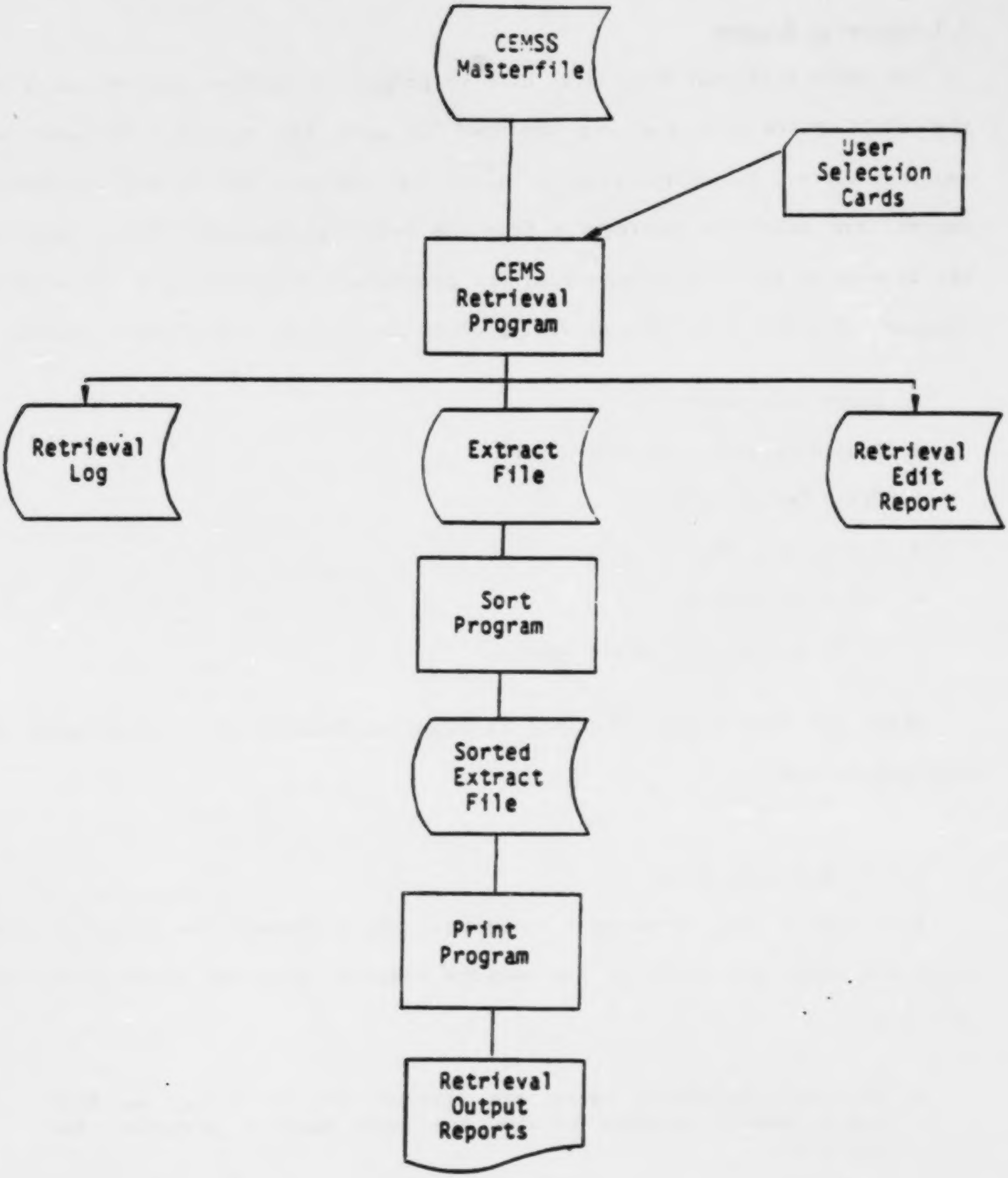

CEMSS Masterfile
User Selection Cards
CEMS Retrieval Program
Retrieval Log
Extract File
Retrieval Edit Report
Sort Program
Sorted Extract File
Print Program
Retrieval Output Reports

Figure 3—4 Retrieval Flow Chart

SECTION 4.0

DATA SUBMISSION PROCEDURES

4.0 DATA SUBMISSION PROCEDURES

The following steps describe the procedures for using the CEMSS. These steps outline in chronological order a general summary of how the CEMSS should be used by the regions. A detailed description of each step is provided in Sections 5.0, 6.0, 7.0, and 8.0.

1. Prepare the Data. Fill out the appropriate coding sheets as described in Section 5.0. Have the coding sheets keypunched or use the WYLBUR Interactive data-entry technique (Section 5.5).

2. Run the Edit Program. After the CEMS records have been entered, prepare the appropriate JCL cards for running the Edit Program. Submit the JCL and input transactions to the computer. Submissions should be made with a "TIME=(0,3)", because the Edit is both quick and inexpensive to run (approximately $2.00 per 1,000 cards with time = 3 seconds). The Edit will run within 1 hour.

   Because multiple runs of the Edit Program can be made between Update runs, experience indicates that it is best to submit data in several smaller batches during the week as soon as data are entered.

3. Examine Edit Report. When the Edit Program is completed, the user must examine the Edit Report to determine if there were any edit errors on the input data. All transactions submitted to the Edit are listed on the Edit Report; transactions that are error-free have no error messages printed on the right-hand column labeled Error Messages. These error-free entries should still be checked for validity.

   The Edit program identifies two types of errors--warning and fatal. Warning errors are identified on the report by an error message preceded by a single asterisk (such as *INVALID STAFF CODE). The Edit will blank out the data element in error, but the transaction will be passed to the output Mod File for processing in the Update Cycle. One warning message is issued for each data element containing a nonfatal error.

   Fatal errors are identified on the report by an error message preceded by three asterisks (such as ***INCORRECT COUNTY CODE FOR STATE). One or more fatal errors on a transaction will prevent that transaction from being placed on the Mod File, and consequently, the transaction will not reach the Update Cycle.

   Table 6-1 gives a complete list of all errors identified by the Edit Program.

For both warning and fatal errors, asterisks are placed directly underneath the data element found to be in error. These asterisks are designed to identify the data element that needs to be corrected.

4. Correct Edit Errors. Once edit errors have been located on the Edit Report, they must be corrected and resubmitted in another run of the Edit Program. All errors should be coded, keypunched, and submitted to the CEMSS by repeating steps 1, 2, and 3 described above. Keep in mind that all valid data from the previous run of the Edit Program are saved on the Mod Files. Once valid data has been accepted by the Edit, the data does not have to be resubmitted again. Only corrections and data not yet submitted to the Edit should be entered after steps 1, 2, and 3 have been performed.

5. The Update Cycle. All valid transactions submitted by the Edit in between Update Cycles are stored on the Mod File. The valid transactions on the Mod File are applied to the CEMSS Masterfile by the Update Program. The scheduling and the maintenance of the Update Cycle is the responsibility of the national DBC.

6. Verify Update Run. The national DBC will route a copy of the Update Report to the user's terminal (Remote Printer Site).

7. Examine Update Report. The Update Report has one print line for each transaction sent to the Update Program by the Edit Program. Next to each transaction on the report there is an Update Action, which shows that the transaction was either added, changed, deleted, or rejected from the CEMSS Masterfile. If the transaction was rejected, there will also be an error message explaining why the transaction could not be added, changed, or deleted.

8. Correct and Resubmit Update Errors. Transactions passing all of the validation routines of the Edit Program may still be rejected by the Update Program. The Update rejects all logic errors caused by an incorrect Update Code on the transaction; for example, the Update cannot apply a change transaction to a record that does not exist on the Masterfile. Table 7-1 shows the update error messages generated by the Update.

   All errors appearing on the Update Report must be researched and recoded. Corrections should be resubmitted to the CEMSS through the Edit Program.

9. Request Management Reports. The CEMSS can produce the following management reports:

   - CEMSS Detail Report
   - Quick Look Report
   - Double-Spaced Quick Look

- Milestone Report
- Three Element Milestone Report
- Source Data Report
- CEMSS Stat Report
- Questionnaire Report.

The user should consult Section 8.0 for the procedures to obtain the above reports.

SECTION 5.0

DATA INPUT PREPARATION

5.0 DATA INPUT PREPARATION

5.1 General

All input data to the CEMSS must be prepared in the format of one of the card layouts shown in Figure 5-1. These are the only formats that the system will accept. The data may be entered into actual 80-column records or prepared through a special WYLBUR screen-prompting data-entry technique. Each record must have columns 1-26 (region, state, county, source, point, action, channel, and card code) and column 80 (Update Code). The other data elements are unique for each card code.

The CEMSS card code consists of two characters. The first character (5-8) indicates the relationship to CEMSS Masterfile records. The second character (0-9) permits multiple input cards to be applied to each CEMSS Masterfile record. The following documentation usually refers only to the first character. The relation of card codes to Masterfile records is outlined below.

Record	Record Code	Card Code
Monitor Description	34	51, 52
Point Comment	35	60
Action Summary	46	70
EER Summary	46	71, 72
Action Comment	47	80

The following sections will describe the transfer of data from the EERs to the CEMS coding sheet and the specific procedures used to add new records, change records, or delete existing records from the CEMSS.

5.2 Excess Emissions Report

As mandated by 40 CFR 60, Paragraph 60.7(c), and by 40 CFR 51, Appendix P, all sources subject to CEMS requirements must submit an EER on a quarterly basis. The EER should include at a minimum the following items as stated by the CEMS regulations:

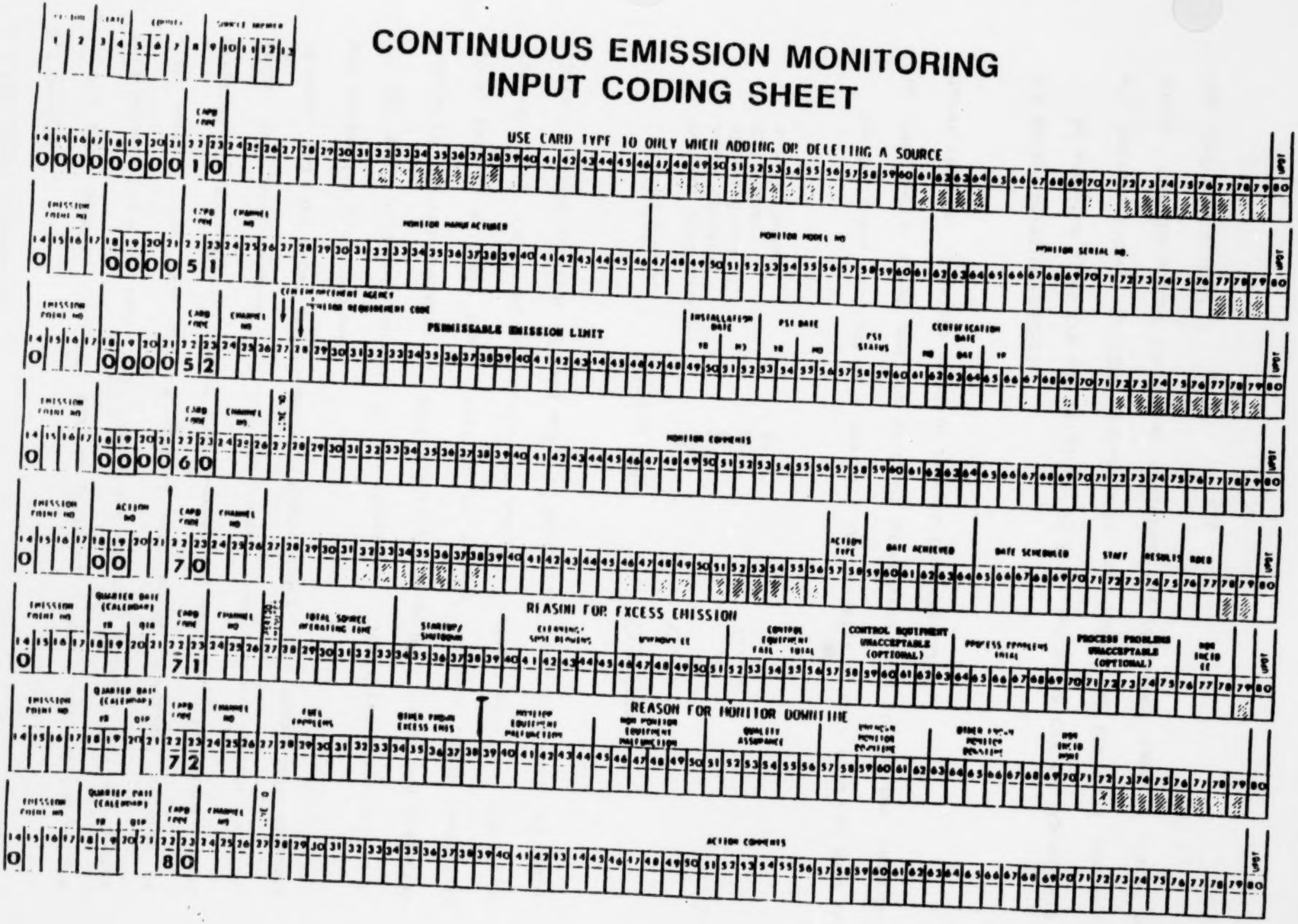

CONTINUOUS EMISSION MONITORING
INPUT CODING SHEET
USE CARD TYPE 10 ONLY WHEN ADDING OR DELETING A SOURCE
CARD TYPE
EMISSION POINT NO
CHANNEL NO
MONITOR MANUFACTURER
MONITOR MODEL NO
MONITOR SERIAL NO.
PERMISSABLE EMISSION LIMIT
INSTALLATION DATE
YR
MO
PST DATE
PST STATUS
CERTIFICATION DATE
MONITOR COMMENTS
ACTION NO
ACTION TYPE
DATE ACHIEVED
DATE SCHEDULED
STAFF
RESULTS
QUARTER DATE (CALENDAR)
QTR
REASON FOR EXCESS EMISSION
TOTAL SOURCE OPERATING TIME
STARTUP/ SHUTDOWN
CONTROL EQUIPMENT UNACCEPTABLE (OPTIONAL)
PROCESS PROBLEMS UNACCEPTABLE (OPTIONAL)
REASON FOR MONITOR DOWNTIME
QUALITY ASSURANCE
ACTION COMMENTS
UPDT
10
51
52
60
70
71
72
80

Figure 5-1. Sample Coding Sheet

- The magnitude, duration, and date of the excess emission period (see Appendix A for period definition)
- The identification of each excess period that can be attributed to startups, shutdowns, and malfunctions
- The cause of any malfunction and the corrective action or preventive measures adopted
- The date, time, and duration of any monitor outage for reasons other than zero checks and span checks
- The reason for monitor outage and corrective action taken
- If there are no excess emissions and no monitor outages, zero excess periods can be coded to indicate full compliance.

Appendix C shows a CEMS EER form that includes all of the information listed above. Unfortunately, not all EERs are submitted in a comprehensive format, as shown in Appendix C.

An example of a relatively complete EER submitted for the first quarter of 1981 is shown in Figure 5-2.

The EER contains all the needed background information on the monitoring equipment, describes all excess emission periods, gives reasons for the excess emissions, and documents all corrective actions. When coding EERs, the user may find that not all formats are as easy to follow as the example shown. Often the EER submitted is technically incorrect or has vital information missing. Some common errors include the following:

- Excess emissions were not reported for each period as defined by the regulations. Figure 5-3 is an EER that does not show specific magnitude or excesses.
- Information such as cause for excess emission and/or corrective actions are not reported for each excess emission period. Figure 5-4 is an EER with no corrective action information.

Some other common errors not shown in those particular EERs include the following:

- Monitor outage information not reported
- Failure to monitor all required pollutants

1 of 5

Illustration A - Example Report Format (Rev. 4, 12/80)

CONTINUOUS EMISSION MONITORING REPORT (CEMR)*

I. General Report Information *60.7(c)*

A. Date report submitted April 27,1981
B. Number of days in reporting period 90 days
C. Period ending (check one): year of 1981
X Mar. 31 _ Jun. 30 _ Sept. 30 _ Dec. 31 _ Other Specify ________

II. Company/Facility Data *(60.7(c) Some implied*

A. Owner/Operator Getty Refining and Marketing Company

1. Name Getty Refining and Marketing Company
2. Mailing Address P.O. Box 1121, El Dorado, KS 67042
3. Contact Name R.B. Miller
Title Pollution Control & Energy Conservation Director
4. Phone Number AC (316) - 321-2200 ext. 329

B. Facility description

1. Plant Name El Dorado Refinery
Unit or process name and number (etc.) Boiler B-107 and Boiler B-108
2. Mailing Address p.o. Box 1121, El Dorado, KS 67042
3. Plant Location El Dorado, Kansas
4. Type of product (steam, acid, etc.) Steam
5. Major input material(s) Water
6. Total hours of on-line production during reporting period See Below
7. Control device(s) operated None

**Brackets include citation of applicable regulation*

On-Line Production Time: January-March, 1981

B-107	2134 Hours
B-108	2126 Hours

(Continued)

Figure 5-2. EER Submitted for First Quarter of 1981

2 of 5

III. CEMS Operational Data *60.7 (b), 60.7 (d),* implied background)

A. Parameters monitored (specify)	Opacity	Opacity	
B. Equipment description (use foootnotes if needed)	B-107	B-108	
1. Manufacturer	LSI	LSI	
2. Model number	RM4	RM4	
3. Serial numbers: main chasis	1070	1646	
control unit	-	-	
4. Basis of measurement (wet or dry)	NA	NA	
5. Instrument span (range value, specify units)	100%	100%	
6. Span level check for daily calibration (ppm)	25%	25%	
C. Program information			
1. Units of emission limit	%	%	
2. Applicable emission limit	20%	20%	
3. Averaging time of limit (hrs, days, ext.)	6 Min.	6 Min.	
4. Reason(s) CEMS installed (NSPS, SIP, permit, etc.)	NSPS	NSPS	
5. Original installation date	1975	1977	
6. Last equipment start-up date			
7. Last PST date (attempt (include results of in this quarter)	1978	1978	
8. Last successful PST date	1978	1978	

NOTE: Only fuel gas was fired in B-107 and B-108 during this reporting period, so no SO_2 limits were applicable (40 CFR 60.43).

(Continued)

Figure 5-2. EER Submitted for First Quarter of 1981 (Continued)

3 of 5

IV. Excess Emissions Report (EER) *60.7 (c)(1) & (2)*

Illustion B is an example format for reporting these data. Table I may be used to format reports when using automatic-data handling equipment in CEMS. Attach a listing of cause codes to Table I. Causes must be explained in detail for each specific excess emission if Table I (a) is used to format reports prepared manually from hourly data.

V. Data Assessment Report (DAR) *New, 60.7(c)(8)*

When reporting quality assurance checks during the reporting period, Table II in Illustration C may be used as a guide. Minimum information to be included applies to precision and accuracy checks, traceability/certification of calibration materials, and maintenance actions for excessive calibration drift or error. Requirements are as specified either in the general provisions or the specific regulation for a specific industry.

VI. Monitor Status Report (MSR) *60.7(c)(3)*

Table III of Illustration D may be used to format reports of CEMS upsets, malfunctions, and downtime. Complete for each parameter monitored, including deluent and/or volumetric flow rate, as applicable.

VII. Certificaton of Report Integrity (by supervisory person, responsible for CEMS data validity) *60.7(c) *

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, THE INFORMATION PROVIDED IN THE ABOVE REPORT IS COMPLETE AND ACCURATE.

A. On-site person completing report		B. Environmental Program (on-site) Manager
______	Signature	______
R.B. Miller	Name	R.B. Miller
Poll. Cont & Enrg Cons Direct	Title	Poll. Cont & Enrg Consrv. Director
P.O. Box 1121 El Dorado, KS 67042	Address	P.O. Box 1121 El Dorado, KS 67042.
AC (316)-321-2000 ext. 329	Phone	AC (316)-321-2200 ext. 329
______ ____, 19___		______ ____, 19______

(Continued)

Figure 5-2. EER Submitted for First Quarter of 1981 (Continued)

EXCESS EMISSION SUMMARY (by week)

Reporting Date(s) 2-15 to 21, 1981

Page 1 of 1

Affected Facility[3] B-108

Parameter Monitored ______

Conversion Factor Method[1] N.A.

Value of Conversion Fa
Used ______

Number of on-line production hours during week 168

Date	Emission Period Begin	Emission Period End	Duration (Hours)	Magnitude[2]	Reason for Excess Emission(s)	Action Taken (if excess is caused by malfunction)
2-15	1311	1317	0.1	21.4%	Unknown	None
2-15	1317	1323	0.1	23.8%	Unknown	None

0.2 Total Excess Emission Hours During Week

[1] State that the factor was developed from plant test data or that a published conversion factor was used.
[2] To be reported in the units of applicable standard, e.g. lbs/10^6 BTU, lb./ton, etc.
[3] Be specific, e.g., Boiler No. 7, Acid plant E, etc.

(Continued)

Figure 5-2. EER Submitted for First Quarter of 1981 (Continued)

VI. MONITOR STATUS REPORT

B-107

Opacity meter out of service for a period of 101 hours from 3-13-81 to 3-17-81 to obtain and install a new blower motor. This opacity meter was out of service 4.7% of the boiler operating time during the quarter.

B-108

(1) Opacity meter out of service or giving unreliable data for a period of 44 hours from 2-10-81 to 2-12-81 dur to malfunctioning shutter.

(2) Opacity meter out of service for a period of 2 hours on 2-25-81 due to malfunctioning shutter.

(3) Opacity meter out of service for 57 hours from 3-28-81 to 3-30-81 due to foreign material blocking sight tubes.

This opacity meter was out of service 4.8% of the boiler operating time during the quarter.

Figure 5-2. EER Submitted for First Quarter of 1981 (Concluded)

SUMMARY OF OPACITY VIOLATIONS

Fourth Quarter, 19

STATION MYSTIC

UNIT	4		5		6		7			
	20-40%	>40%	20-40%	>40%	20-40%	>40%	20-40%	>40%	20-40%	>40%
	MINUTES		MINUTES		MINUTES		MINUTES		MINUTES	
CAUSES										
Sootblowing	131	10	32	98	8	82		1		
Startups		100	8	4	30	23	15	61		
Shutdowns		9		31		1		61		
Load Cycles	28	2	25	33	56	17		51		
Control Problems	7	30	1	8		1		9		
Other *		3		10		1		2		
TOTALS	166	154	66	184	94	175	15	185		
% Time In Compliance (All Occurrences)	99.76		99.81		99.83		99.85			
% Time In Compliance (W/O Sootblowing)	99.86		99.91		99.90		99.85			

* Includes cleaning ash pits, routine station checks, changing burners, adjusting precipitator rappers and auxiliary equipment failures.

Figure 5-3. EER That Shows No Specific Magnitude or Excesses

Mystic #4: Indicated Excess Visible Emissions

JUNE 29, 1980 THROUGH SEPTEMBER 27, 1980

DATE	TIME	DURATION* Hr Mn Sc	MAGNITUDE	CAUSE
8-18	1:20 PM	00:05:00	45%	Soot Blowers
8-18	1:35 PM	00:03:00	50%	Soot Blowers
8-18	1:40 PM	00:08:00	86%	Soot Blowers
8-18	2:07 PM	00:01:00	43%	Soot Blowing
8-18	2:10 PM	00:11:00	90%	Soot Blowing
8-18	2:20 PM	00:09:00	69%	Soot Blowing
8-18	2:30 PM	00:07:00	41%	Soot Blowing
8-18	2:45 PM	00:15:00	31%	Soot Blowing
8-18	3:20 PM	00:09:00	33%	Soot Blowing
8-18	4:00 PM	01:00:00	57%	Soot Blowing
8-18	5:02 PM	00:20:00	32%	Soot Blowing
8-18	5:50 PM	00:45:00	35%	Soot Blowing
8-18	7:03 PM	00:29:00	26%	Soot Blowing
8-18	8:40 PM	01:06:00	44%	#1 A.H.

* That period during which the opacity monitor indicated that emissions exceeded 20%. The magnitude listed is the maximum reading for that time period.

Figure 5-4. EER with No C ective Action Information

Figure 5-5 provides a reviewer's checklist for an excess emission report. The checklist will assist in evaluating the completeness of the EERs. Incomplete EERs should be analyzed and coded as completely as possible and the missing information obtained for later entry into the CEMSS.

5.3 Adding New Records to the CEMS Masterfile

5.3.1 Adding New CEM Source That Does Not Exist in CDS

Entries for all facilities subject to CEMS regulations should already exist in the CDS Masterfile. If not, the new facility must be coded and entered into CDS before the user performs any CEMSS coding for that facility. The following procedure should be followed to verify that the source is in CDS.

1. Request a CDS Quick Look Report to verify that the facility does not already exist on the CDS Masterfile.
   - Be sure to check different deviations of the facility's name and address. Because all CEMS-regulated facilities are major facilities, the source should exist on CDS in some form.
   - If a check of all apparent deviations of the facility's name and address does not locate the facility in CDS, a Quick Look Report can be run for the entire state. The facility may be entered in CDS in the wrong county or with the name or address spelled incorrectly.
2. If a CDS match cannot be found, before entering CEMS data, code and enter the facility into CDS; code and enter the necessary emission point for the CEMS data, Including:
   1. Identification of the pollutant being monitored
   2. description of the emission source or combination of sources being monitored/reported in the CDS point process description; then follow instructions in Section 5.3.2.

5.3.2 Adding New CEM Source that Already Exists in CDS

A facility may be added to the CEMSS Masterfile with or without any channel-level information (monitor background information, reduced EER, etc.).

EXCESS EMISSION REPORT - REVIEWER'S CHECKLIST

Source: ______________________________

Reporting period: ______________ Required monitors: SO_2, NO_x, opacity, O_2, or CO_2 (circle)

Reviewer's signature: ______________ Date: ______________

Yes	No	NR	NA		
☐	☐	☐	☐	1.	Is the excess emission report postmarked by the 30th day following the end of the reporting quarter?
☐	☐	☐	☐	2.	Were all required pollutants reported?
☐	☐	☐	☐	3.	If no excess emissions occurred during the quarter, has this been stated?
☐	☐	☐	☐	4.	If conversion factors are required to convert monitor data to units of the standard, is the method and value given?
☐	☐	☐	☐	5.	If the continuous monitoring system has been operative and no repairs or adjustments were made, has this information been stated?
☐	☐	☐	☐	6.	Has plant operating time been stated?
☐	☐	☐	☐	7.	Is the magnitude of the excess emission(s) reported in units of the applicable standard?
☐	☐	☐	☐	8.	Is date and time of commencement and completion of each period of excess emission stated?
☐	☐	☐	☐	9.	Is each period of excess emission, which occur during startup, shutdown, and malfunction identified?
☐	☐	☐	☐	10.	Is the nature and cause of the malfunction(s) in question 8 addressed?
☐	☐	☐	☐	11.	Is the corrective action taken or preventative measures adopted for 9 above addressed?
☐	☐	☐	☐	12.	Is the data for opacity reported in the applicable time period averages (i.e., either 5 minutes or 1 hour)?
☐	☐	☐	☐	13.	Is the data for SO_2 reported in the applicable time period averages (i.e., 2 hour, 3 hour, moving average)?
☐	☐	☐	☐	14.	Is the data for NO_x reported in the applicable time period averages (i.e., 3 hours, moving average)?
☐	☐	☐	☐	15.	Is the date and time of each period of the continuous monitoring system inoperativeness, excluding zero and span checks, stated?
☐	☐	☐	☐	16.	Is the type(s) of continuous monitoring system repair(s) and/or adjustment(s) addressed?
☐	☐	☐	☐	17.	Is the monitoring system unchanged since the last P.S. test?

Recommended action: ______________________________

____

NR = Not Reported NA = Not Applicable

Source: John P. Wood and Ralph L. Roberson. Review of Excess Emission Reports (EERs) from Stationary Sources. Research Triangle Institute, EPA Contract No. 68-01-4141, Task 43. EPA Report No. 34013-81-003, June 1981.

Figure 5-5. Reviewer's Checklist for an EER

1. Code columns 1-13 (region, state, county, source number) with the codes obtained from the CDS report; enter zeros in columns 14-21 and enter '10' for Card Code and 'A' for Update Code.
2. All CDS information will appear on the CEMSS Masterfile after the next CEMSS Update.

To copy a facility onto the CEMSS Masterfile from the CDS Masterfile, with channel-level data:

1. Code columns 1-21 (region, state, county, source number, emission point number, and action number) with the codes obtained from the CDS report; enter an 'N' in the Update Code for all transactions to be entered (51, 52, 60, 70, 71, 72, and 80). The emission point number coded must be in the range of 0500 through 0599. See Appendix G for an explanation of this requirement.
2. All CDS and CEMS information will appear on the CEMSS Masterfile after the next CEMSS Update.

5.3.3 Card Types 51 and 52

These cards are used to add descriptive pollutant monitoring data for an existing emission point. A continuous emission monitor consists of a single device or group of devices monitoring an emission point; each monitor is pollutant-specific. Note that there may be more than one monitor for an emission point for three reasons:

- The same pollutant is being monitored separately for more than one unit vented by a particular stack.
- Duplicate monitors or multiple monitors of different manufacturers and/or types may be installed.
- The CDS emission point may not be pollutant-specific.

In addition to the data describing the characteristics of the monitor, Cards 51 and 52 contain information fields pertaining to Performance Specification Tests (PST) for the monitor. In particular, the PST status field is used by the Update Program to create counters in the monitor record. The counters maintain cumulative counts of reported tests, passes, and fails.

5.3.4 Card Type 60

Card 60 is a comment card used to add additional information about a particular channel (monitor) that is different from the information supplied by the monitor data on Cards 51 or 52. There are 10 comment line numbers available on Card Type 60; up to 10 comments may be used to add information. A channel comment cannot be added to the Masterfile unless a corresponding channel already exists on the Masterfile.

5.3.5 Card Type 70

Card Type 70 is used to add information describing CEMS-related actions (M actions) taken by the local, state, or Federal regulatory agencies on a particular monitor. All non-CEMS actions should be entered through CDS. All M3 action types (EER submission) will be transferred to the appropriate CDS emission point.

Data Field	CEMSS User's Guide Number	Card 51 Coding Considerations
Emission Point Number (PTNO)	A.1-7	Each emission point number refers to pollutant type emitted from one emission point (stack or production process). The first digit (Column 14) is always coded '0'. In the next three columns (15-17), code the three-digit CDS/CEMSS emission point number. This emission point number must be in the range of 0500 through 0599. See Appendix G for an explanation of this requirement. If the emission point does not exist in CDS/CEMSS, the point must be entered and updated through CDS before CEMS transactions can be applied. CEMS information can be attached to all CDS/CEMS emission points except the '000' point central facility.

Channel Number (CHAN) A.1-4

In order to properly identify, store, and retrieve multiple-monitor data, a channel number is part of the key identification (see Appendix A). This three-character code uniquely identifies a pollutant being monitored, single- or multiple-units points, and each monitor (up to 10 monitors are possible). The structure was designed to simplify certain routine retrievals expected as part of the CEMS process.

Data that create a nonzero channel number must be entered only when a corresponding emission point already exists on the CEMSS Masterfile. Nonzero channels for Point '0000' are not permitted, because they have no meaning in the CEMSS.

For data referred to specific monitors, the following rules apply:

Column 24 identifies the pollutant being monitored and is numeric with the following allowable codes:

1 = Opacity (PT)
2 = SO_2 (sulfur dioxide)
3 = NOX (oxides of nitrogen)
4 = Diluent (oxygen (O_2) or carbon dioxide (CO_2)
5 = HC (hydrocarbons)
6 = TRS (total reduced sulfur)
7 = H2S (hydrogen disulfide)
8 = CO (carbon monoxide)
9 = Coal Sampling and Analysis

Column 25 indicates the type of data being entered, is numeric, and is limited to the following codes:

1 - Monitor data
9 - Excess emission reports (EER) data or percent reduction (% RDX) data

Column 26

a. If column 25 = 1, column 26 represents a particular monitor in a multiple monitor installation and is numeric. For example, if a unit has two opacity monitors on the same emission point, the first would be coded "111" and the second coded as "112."

b. If column 25 = 9, column 26 indicates the type of emission data being entered/present in CEMS, is numeric, and, at present, is limited to the following codes:

5 = Percent reduction (% RDX) for SO_2 and NO_x
9 = Excess emission reports (EER) for all pollutants.

Point Number/Channel Number (PTNO/CHAN) coding examples are as follows:

Example 1: A source sends in three EERs (opacity, SO_2, and NO_x) per quarter for two boilers venting to one stack. There are two opacity monitors, one on each duct to the stack. A combined SO_2/NO_x monitor and CO_2 monitor are installed on the stack. In CDS there will be three PTNOs established for tracking this CEM/EER data in CEMS:

CEMS PTNO	CDS PRDS	CEMS CHAN
0500	OPAC EER;	111 - Opacity monitor on one duct
	BOILERS 1 & 2	112 - Opacity monitor on other duct
		199 - Opacity EER for Boilers 1 & 2

CEMS PTNO	CDS PRDS	CEMS CHAN
0501	SO2 EER;	211 - SO_2 monitor on stack
	BOILERS 1 & 2	295 - % S_2 RDX
		299 - SO_2 EER for Boilers #1 & 2
		411 - CO_2 monitor on stack

CEMS PTNO	CDS PRDS	CEMS CHAN
0502	NOX EER;	311 - NO_x monitor on stack
	BOILERS 1 & 2	395 - % N_2 RDX
		399 - NO_x EER for Boilers #1 & 2
		411 - CO_2 monitor in stack

Example 2: A source sends in four EERs for two separate boilers, one of which is subject to SUBPART Da. One boiler (Boiler #1) has only an opacity monitor units stack. The SUBPART Da boiler (Boiler #2) has two opacity monitors: one on each section of the split breeching between the lectrostatic precipitator (ESP) and the flue gas desulfurization (FGD) unit. Two SO_2 monitors are present: one on the stack and the other monitoring the two inlet ducts to the FGD. One CO_2 monitor is on the stack and the other on the inlet to the ESP. In CDS, there will be four emission points coded:

CEMS PTNO	CDS PRDS	CEMS CHAN
0500	OPAC EER; BOILER #1	111 - Opacity monitor on boiler #1 199 - Opacity EER for Boiler #1

CEMS PRDS	CDS PRDS	CEMS CHAN
0501	OPAC EER; BOILER #2	111 - Opacity monitor, boiler #2, duct A 112 - Opacity monitor, boiler #2, duct B 199 - Opacity EER Boiler #2

CEMS PTNO	CDS PRDS	CEMS CHAN
0502	SO2 EER; BOILER #2	211 - SO_2 monitor, boiler #2, stack 212 - SO_2 monitor, boiler #2, ducts 295 - SO_2 % reduction report 299 - SO_2 EER, boiler #2 411 - CO_2 monitor, boiler #2 stack

CEMS PTNO	CDS PRDS	CEMS CHAN
0503	NOX EER; BOILER #2	311 - NO_x monitor on Boiler #2, stack 312 - NO_x monitor on Boiler #2, ESP duct 395 - NO_x % reduction report 399 - NO_x EER for Boiler #2 411 - CO_2 monitor on boiler #2 stack

dioxide monitors and one opacity monitor. Also, assume unit 3 has only an opacity monitor. The correct channel codes would be:

111	Unit 1, 1 opacity monitor
121	Unit 2, 1 opacity monitor
131	Unit 3, 1 opacity monitor
231	Unit 3, SO_2 monitor #1
212	Unit 1, SO_2 monitor #2
221	Unit 2, SO_2 monitor #1.

All the channel numbers may be assigned at the user's discretion, but should be assigned sequentially in order to ensure correctness. When adding new channel numbers for a point, request a Source Data Report or a Quick Look Report to make sure that the new channel number does not already exist on the Masterfile.

Monitor Manufacturer (MANF)	A.1-9	These three alphabetic fields identify the manufacturer, serial number, and model number of the principal components of the monitoring unit. Obtain this information either from the EER or from data provided by the Plan Manager.
Monitor Model Number (MCDL)	A.1-10	
Monitor Serial Number (SERL)	A.1-13	
Update Code (UPDT)	A.3-10	Code an 'N' in column 80 if Card 51 is a new channel number on the CEMSS Masterfile; code a 'C' if information is being changed on an existing channel. Because basic monitor information usually is constant throughout the history of the source, Card 51 should only be entered during the initial coding for that particular source.

Date Field	CEMSS User's Guide Number	Card 52 Coding Considerations
CEMS Enforcement Agency (AGCY)	A.1-1	This one-digit code indicates the Federal or state agency with enforcement jurisdiction for the continuous emission monitor at the facility. The valid codes are: 1 - EPA-HEADQTRS 2 - EPA-REGION 3 - STATE 4 - LOCAL.

Data Field	CEMSS User's Guide Number	Card 52 Coding Considerations
Requirement Code (REQT)	A.1-11	Code the Clean Air Act regulation requiring the continuous monitoring (NSPS or SIPS). In some cases a facility may be instructed to install continuous monitoring equipment by court order by a 114 Letter. In this case code either the air program (PSD) or enforcement action (ENF). If this data element cannot be filled by examining the EER, check the air program code listed in CDS for that facility. The valid codes are: 1 - SIP - STATE EMPLEMENTATION PLAN 3 - ENF - ENFORCEMENT ACTION 5 - OTHER 6 - PSD - PREVENTION OF SIGNIFICANT DETERMINATION 9 - NSPS - NEW SOURCE PERFORMANCE STANDARD.
Permissible Emission Limit (EMIS)	A.1-17	Code the units and values noted by the CEMS regulation number. Examples for a fossil-fuel power plant are: 0.3 LBS/MBTU NOX 20% OPAC/6 MIN PERD. Some of the regulated values for CEMS sources can be found in Appendix C or Pate (1983).
Installation Date (MIND)	A.1-8	Code the first two digits with the year the monitor was installed and the last two digits with the month of installation (01-12).
Performance Specification Test Date (PSTD)	A.1-18	This four-digit field indicates the date or year/month format that the latest PST occurred. The first PST is run within 60 days after achieving the maximum production rate or 180 days after the initial startup. Afterwards, a PST occurs if required by the Administrator under Section 114 of the Clean Air Act (Pate 1983).
Performance Specification Test Status (PSTS)	A.1-19	Code the results (PASS/FAIL) of the latest PST. The Update Program uses this data field to keep running total of PST passes and PST fails.

Data Field	CEMSS User's Guide Number	Card 52 Coding Considerations
Certification Date (CERF)	A.1-3	This six-digit field indicates in month/day/year format the date that the monitor was certified.
Update Code (UPDT)	A.3-10	Code a 'N' in column 80 if Card 52 is adding a new emission point to the Masterfile and being entered simultaneously with Card 51. If Card 52 is being entered after Card 51 was previously updated, code a 'C' in column 80. All data elements on Card 52 should only be entered during the initial update except PST date and PST status, which are updated after every PST.

Data Field	CEMSS User's Guide Number	Card 70 Coding Considerations
Emission Point Number (PTNO)	A.1-7	Each action must be associated with the corresponding four-digit emission point number on Card 51.
Action Number (ANUM)	A.2-7	When adding numerous actions during the same Update Cycle, code the action numbers in chronological order 0001-0098. If this is the facility's first entry into the CEMSS, start numbering at 0001. To add additional actions to an existing facility, examine a CDS/CEMSS retrieval and code the actions in sequential order, starting from the last action entered. If you are adding a new action, you may use action number 0099 to place the action on the Masterfile. The action number 0099 will automatically assign the next available action number in CDS/CEMSS. New action numbers cannot be added to the Masterfile unless the channel for that action has been added to the Masterfile during a previous CEMSS Update Cycle. Each action number must be associated with a specific channel except an M3 action, which is associated with a specific CDS emission point.

Data Field	CEMSS User's Guide Number	Card 70 Coding Considerations
Channel Number (CHAN)	A.1-4	Enter the corresponding three-digit channel number of the monitor for which the particular action (M1, M2, M$, MA, etc.) is being taken. Enter '000' for an action type M3.
Action Type (ATPE)	A.2-1	The two-character alphanumeric code outlines the history of the continuous emissions monitors at a facility. The CDS Action Table is accessed to determine the validity of each region's CEMS actions. Each region is responsible for defining the CEMS actions to be tracked by the CEMSS. Table 5-1 is the current list of CEMS actions by region. The national DBC, in coordination with TRC maintains the CDS/CEMS Action Table. Regions must obtain clearance from both before changes are made to maintain national consistency, at least with the CEMS actions. All M actions (except M3) will only appear on the CEMSs Masterfile. They can only be retrieved by a CEMSS Retrieval and entered by a CEMSS Edit Program. A Card 70 with action type M3 should be submitted for each EER received. Action type M3 is transferred to the CDS Masterfile as an emission point action. For this reason, be careful if two or more CEMSS exist under one CDS emission point. In that case, only one M3 action should be entered to indicate that all EERs have been submitted for all monitors existing at that CDS emission point.
Date Achieved (DTAC)	A.2-2	The six-digit data field displays the date an action is performed or completed. The date is given in month, day, and year format. The year must be >60, the month between 01-12, and the day between 01-31. When recording date achieved, refer to the EPA receiving stamp on the document.

TABLE 5-1

ACTION TYPES

	ACTION TYPES	SHORT DESCRIPTION	LONG DESCRIPTION
REGION 01	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	CMS EVAL RSLT	CMS EVALUATION RESULTS FURNISHED
	M3	SUB QRTLY RPT	SUBMISSION OF QUARTERLY REP
	M4	PER TST RSLT	PERFORMANCE TEST RESULTS
	M5	CMS EVAL CONDUCT	CMS EVALUATION CONDUCTED (60.13)
	M6	NOT PERF TST DT	NOTIFICATION OF PERFORMANCE TESTING
	M7	PER TST EPA RQD	PERFORMANCE TEST EPA REQUIRED
	M8	PER TST WAIVED	PERFORMANCE TEST WAIVED
	M9	CON MON INSP	COMPLIANCE MONITORING INSPECTION
REGION 02	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CM TEST RESULTS	CMSYSTEM TEST RESULTS
REGION 03	MB	EPA MEET W/S&C	EPA MEETING WITH SATE AND COMPANY
	MC	EPA MEET W/COM	EPA MEETING WITH COMPANY
	MS	EPA MEET W/ST	EPA MEETING WITH STATE
	74	XS EMISSN RPT	EXCESS EMISSION REPORT
	75	EPA OBSRV PST	EPA OBSERVED CEMS PERFORMANCE SPECIFICATION TEST
	76	ST OBSRV PST	STATE OBSERVED CEMS PERFORMANCE SPECIFICATION TEST
	77	CEMS PST	CEMS PERFORMANCE SPECIFICATION TEST (UNOBSERVED)
	78	CM REL ACC TST	CEMS RELATIVE ACCURACY TEST
REGION 04	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CM TEST RESULTS	CM SYSTEM TEST RESULTS
	M5	INSTALL DATE	INSTALLATION DATE
	M6	PLAN SUBMIT	PLAN SUBMITTED
	M8	CM UP/MAL DUR	CM UPSET/MALFUNCTION DURATION
	M9	CM UP/MAL REPT	CM UPSET/MALFUNCTION REPORT
	N1	AWRD CM CONTRCT	AWARD MONITOR CONTRACT
	N2	BEGIN CM INSTAL	BEGIN MONITOR INSTALLATION
	N3	COMPLETE CM INS	COMPLETE MONITOR INSTALLATION
	N4	COMPLETE CM CER	COMPLETE MONITOR CERTIFICATION TESTS
	N5	GAS MON SHIPMT	GAS MONITOR SHIPMENT
	N6	OP MON SHIP DT	OPACITY MONITOR SHIPMENT DATE
	N7	CM INSPECTION	CM INSPECTION
REGION 05	M1	NOTICE CM TEST	MODIFICATION OF CM SPECIFICATION TEST DATE
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION

TABLE 5-1

ACTION TYPES (Continued)

	ACTION TYPES	SHORT DESCRIPTION	LONG DESCRIPTION
	M4	CM TEST RESULTS	CM SYSTEM TEST RESULTS
	M5	LTR OF INQUIRY	LETTER OF INQUIRY
	M6	LTR NONCOMPL	LETTER OF NONCOMPLIANCE
	M7	PER APPLICATION	PERMIT APPLICATION
	M8	PER RELEASE	PERMIT RELEASE
REGION 06	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CM TEST RESULTS	CMSYSTEM TEST RESULTS
	M5	REV CEMS TST RES	REVIEW OF CEMS TEST RESULTS
	M6	REV CEMS DATA	REVIEW CEMS DATA
	M7	CEMS AUDIT	CEMS AUDIT
REGION 07	M1	NOTICE CEMS TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	EXC CEMS SPEC TS	EXECUTION OF CEMS SPECIFICATION TEST
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CEMSSYSTESTAUDIT	CEMS SYSTEM TEST AUDIT
	M5	SUB CEMS SPEC TR	SUBMISSION OF CEMS SPECIFICATION TEST RESULTS
REGION 08	MA	QA EVAL OF EER	QA EVALUATION OF EER
	M0	CEMS PERF AUDIT	CEMS PERFORMANCE AUDIT
	M1	NOT CONDUCT PST	NOTICE OF INTENT TO CONDUCT PST
	M2	EXEC OF PST	EXECUTION OF PST
	M3	EER SUBMISSION	EER RECEIVED BY AP
	M4	CEMS SYS AUDIT	CEMS SYSTEM TEST AUDIT
	M5	PST RPT RECVD	PST REPORT RECEIVED
	M6	AP AIR QA CORD	APPROVAL AIR QA CORD PST PROTOCOL AND OF QA PLAN
	M7	NOT PST SCHEDULE	NOTICE (30 DAY MINIMUM) OF PST SCHEDULE
	M8	PST REV COMPLETE	PST REPORT REVIEW COMPLETE
	M9	TRAN PST RCM AP	TRANSMITTAL OF PST RECOMMENDATIONS TO AP
REGION 09	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CM TEST RESULTS	CHSYSTEM TEST RESULTS
	M5	REFERRED TO ATB	FILE REFERRED TO ATB
REGION 10	M1	NOTICE CM TEST	NOTIFICATION OF CM SPECIFICATION TEST DATE
	M2	SUBMIT CM RESLT	EXECUTION AND SUBMISSION OF CM SPEC TEST RESULT
	M3	EER SUBMISSION	EER SUBMISSION
	M4	CM TEST RESULTS	CMSYSTEM TEST RESULTS

<table>
<tr><th>Data Field</th><th>CEMSS User's Guide Number</th><th>Card 70 Coding Considerations</th></tr>
<tr><td>Date Scheduled (DTSC)</td><td>A.2-3</td><td>The six-digit code gives the date on which an action is scheduled to be performed or completed in month, day, and year format. EER submissions (M3) are scheduled to be submitted 30 days after the end of each quarter.

Quarterly reports are due on the following dates:
<table>
<tr><th>Quarter</th><th>Scheduled Due Date</th></tr>
<tr><td>1</td><td>05/01</td></tr>
<tr><td>2</td><td>07/31</td></tr>
<tr><td>3</td><td>10/30</td></tr>
<tr><td>4</td><td>01/31</td></tr>
</table></td></tr>
<tr><td>Staff Code (PERA)</td><td>A.2-4</td><td>The three-digit code indicated the staff member involved in completing the action (use CDS Staff Codes).</td></tr>
<tr><td>Results Code (STAC)</td><td>A.2-5</td><td>The two digit data field indicates whether an action has been carried out. The results code may also indicate the next logical action. It does not, however, infer the success of the action. Each action entered into the CEMSs need not have a results code. Use the CEMS Results Code Table to determine a valid results code. Changes to the CEMS Results Codes must be cleared through TRC and the national DBC. Table 5-2 is the current list of CEMS Results Codes.</td></tr>
<tr><td>Update Code (UPDA)</td><td>A.3-10</td><td>Enter an 'N' for a new action record not existing on the CEMSS Masterfile, and a 'C' to change a data element for a record already on file. Enter an 'A' on a card 10 only to add a new source to CEMS from CDS.</td></tr>
</table>

5.3.6 Card Type 71

Card Type 71 is used to add EER summary data. One record will be generated from each EER, recording seven of the nine basic reasons for excess emissions.

TABLE 5-2

RESULTS CODES

	RESULTS CODES	RESULTS DESCRIPTION
REGION 01	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
REGION 02	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	INVIOLATION
REGION 03	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
	M1	INCREMENTS MET
	M2	ICRMTS NOT MET
REGION 04	MA	QEER ADEQUATE
	MC	INCOMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	INVIOLATION
REGION 05	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	INKNOWN CMST
	MV	IN VIOLATION
REGION 06	MA	QEER ADEQUATE
	MB	SEE STAFF PERSON
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ

TABLE 5-2

RESULTS CODES (Continued)

	RESULTS CODES	RESULTS DESCRIPTION
	ME	IN VIOL-LEGAL
	MF	IN VIOL-STATE
	MG	IN VIOL-FILE
	MG	IN COMP-LEGAL
	MH	IN COMP-LEGAL
	MI	QEER INADEQUATE
	MJ	IN COMP-STATE
	MK	IN COMP-FILE
	ML	UNKNOWN-LEGAL
	MM	UNKNOWN-STATE
	MN	UNKNOWN-FILE
	MO	NUMEROUS SHUTDN
	MP	RETURNED TO S&A
	MR	RETEST REQ
	MS	ADDL INFO REQ
REGION 07	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
REGION 08	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
REGION 08	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MF	FAIL
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MP	PASS
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
REGION 09	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN

TABLE 5-2

RESULTS CODES (Continued)

	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION
REGION 10	MA	QEER ADEQUATE
	MC	IN COMPLIANCE
	MD	CM RECERTIF REQ
	MI	QEER INADEQUATE
	MO	NUMEROUS SHUTDN
	MR	RETEST REQ
	MU	UNKNOWN CMST
	MV	IN VIOLATION

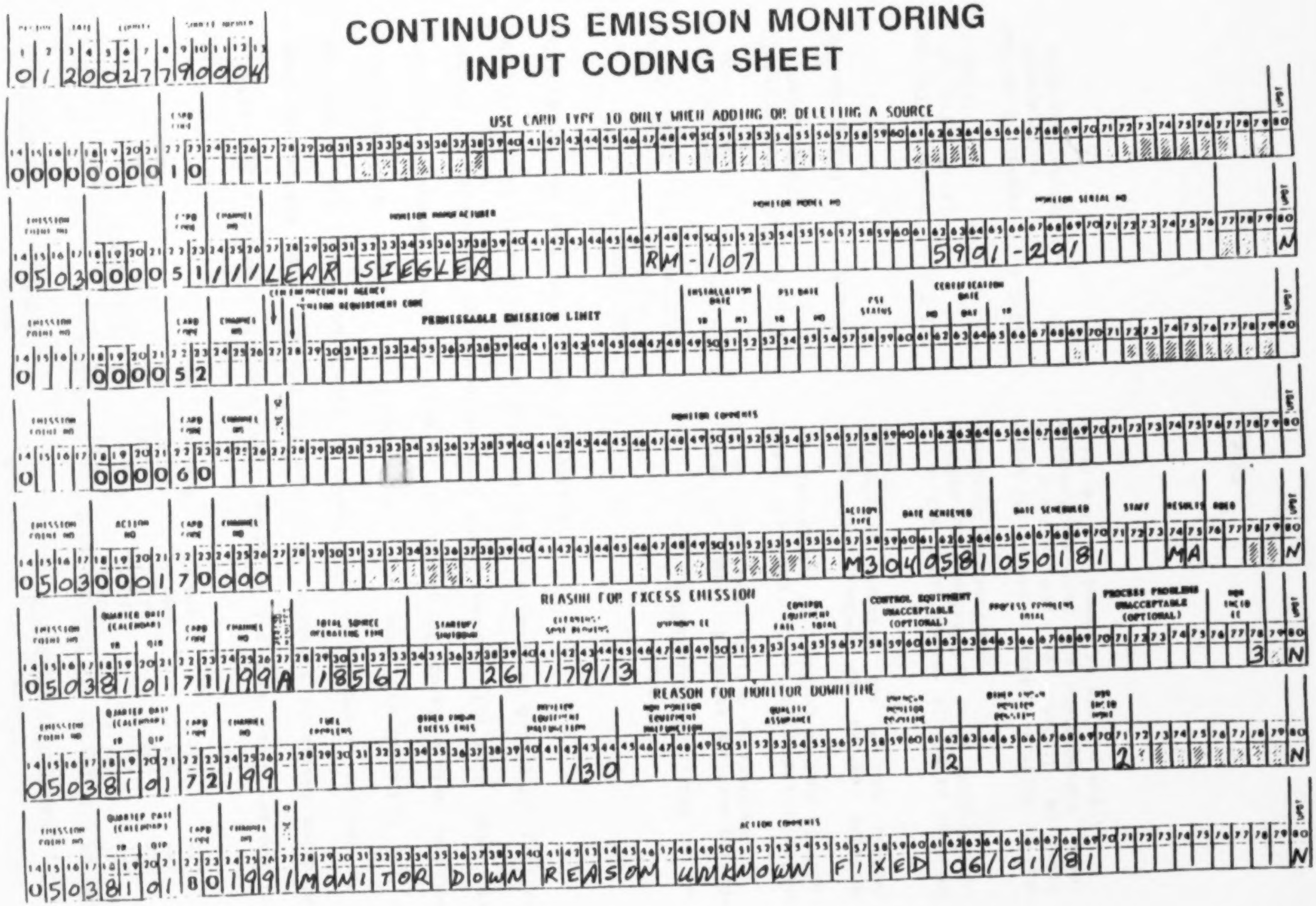
Data Field	CEMSS User's Guide Number	Card 71 Coding Considerations
Emission Point Number (PTNO)	A.1-7	Each action must be associated with the corresponding four-digit Emission Point Number on Card 51.
Quarter Date (Calendar Year)	A.2-8	Enter in the four-digit field in year/quarter format the quarter for which the EER was submitted. Quarter — Time Period 01 — 01/01 - 03/31 02 — 04/01 - 06/30 03 — 07/01 - 09/30 04 — 10/01 - 12/31
Time Period Code (Time)	A.2-44	Enter either 'M' (minutes) or the appropriate alphabetic time period code: 'A' (6 minute period), 'B' (15 minute period), 'C' (30 minute period), 'D' (1 hour period - 60 minutes), 'E' (2 hour period - 120 minutes), 'F' (3 hour period - 180 minutes), 'G' (24 hour period - 1440 minutes), or 'M' (minutes) depending on how the following excess emissions information has been summarized. The definition of an excess emission period is defined in the CEMS regulations (see either Appendix A, B, and C or Pate (1983)).
Total Source Operating Time (OPER)	A.2-47	Code the time (periods or minutes) that the source was operating during the quarter in question. This information is either given the EER or derived by subtracting the time the unit or process was shut down or off line (nonoperational time) from the total time in the quarter. Although this information is not required to be coded, elimination will result in inaccurate monitor availability, monitored operating source compliance, and overall operating source compliance. Maximum quarter times follow:

Data Field	CEMSS User's Guide Number	Card 71 Coding Considerations

	Quarter	Minutes	6-min Periods	1-h Periods	3-h Periods
	01	129,600	21,600	2,160	720
(leap year)	01	131,040	21,840	2,184	728
	02	131,040	21,840	2,184	728
	03	131,040	33,080	2,208	736
	04	132,480	33,080	2,208	736

The next eight data elements record seven of the nine basic reasons for quarterly excess emissions and the number of incidents of excess emission. For each reason, enter the number of excess emission periods or minutes in a right-justified format (see Figure 5-6). If none are reported for a particular reason, leave it blank. The number of total excess emission periods is determined by adding the nine basic reasons. For this reason, be sure to categorize every excess emission period or minutes during the quarter into one of the nine basic reason categories.

Data Field	CEMSS User's Guide Number	Card 71 Coding Considerations
Start up/Shut down (STAR)	A.2-23	Enter the number of excess emission periods or minutes due to startup or shutdown.
Cleaning/Soot Blowing (SOOT)	A.2-13	Enter the number of excess emission periods or minutes due to cleaning or soot blowing.
Unknown (EQUN)	A.2-25	Enter the number of excess emission periods or minutes due to an unknown reason.
Control Equipment Failure - Total (EQPT)	A.2-15	Enter the total number of excess emission periods or minutes due to a unit/control equipment malfunctions.
Control Equipment Unacceptable (optional)(EQPU)	A.2-17	Enter the number of excess emission periods or minutes due to control equipment malfunctions that one unacceptable excess emissions, as deemed by the engineers.



CONTINUOUS EMISSION MONITORING
INPUT CODING SHEET

0 1 2 0 0 2 7 7 9 0 0 0 4

USE CARD TYPE 10 ONLY WHEN ADDING OR DELETING A SOURCE

0 0 0 0 0 0 0 0 | CARD TYPE 1 0

EMISSION POINT NO 0 5 0 3 | 0 0 0 0 | CARD TYPE 5 1 | CHANNEL NO / / / | MONITOR MANUFACTURER LEAR SIEGLER | MONITOR MODEL NO RM-107 | MONITOR SERIAL NO 5901-201 | N

EMISSION POINT NO 0 | 0 0 0 0 | CARD TYPE 5 2 | CHANNEL NO | PERMISSABLE EMISSION LIMIT | INSTALLATION DATE YR MO | PST DATE YR MO | PST STATUS | CERTIFICATION DATE MO DAY YR

EMISSION POINT NO 0 | 0 0 0 0 | CARD TYPE 6 0 | CHANNEL NO | MONITOR COMMENTS

EMISSION POINT NO 0 5 0 3 | ACTION NO 0 0 0 1 | CARD TYPE 7 0 | CHANNEL NO 0 0 0 | ACTION TYPE M 3 | DATE ACHIEVED 0 4 0 5 8 1 | DATE SCHEDULED 0 5 0 1 8 1 | STAFF | RESULTS M A | N

REASON FOR EXCESS EMISSION

EMISSION POINT NO 0 5 0 3 | QUARTER DATE (CALENDAR) YR 8 1 QTR 0 1 | CARD TYPE 7 1 | CHANNEL NO 1 9 9 | A | TOTAL SOURCE OPERATING TIME 1 8 5 6 7 | STARTUP/SHUTDOWN 2 6 | CLEANING/SOOT BLOWING 1 7 9 1 3 | CONTROL EQUIPMENT FAIL - TOTAL | CONTROL EQUIPMENT UNACCEPTABLE (OPTIONAL) | PROCESS PROBLEMS TOTAL | PROCESS PROBLEMS UNACCEPTABLE (OPTIONAL) | 3 | N

REASON FOR MONITOR DOWNTIME

EMISSION POINT NO 0 5 0 3 | QUARTER DATE (CALENDAR) YR 8 1 QTR 0 1 | CARD TYPE 7 2 | CHANNEL NO 1 9 9 | FUEL PROBLEMS | OTHER THAN EXCESS EMIS | MONITOR EQUIPMENT MALFUNCTION 1 3 0 | NON MONITOR EQUIPMENT MALFUNCTION | QUALITY ASSURANCE | 1 2 | 2 | N

EMISSION POINT NO 0 5 0 3 | QUARTER DATE (CALENDAR) YR 8 1 QTR 0 1 | CARD TYPE 8 0 | CHANNEL NO 1 9 9 | 1 | ACTION COMMENTS MONITOR DOWN REASON UNKNOWN FIXED 06/01/81 | N

Figure 5-6. CEMS Coding Sheet with New Data

Data Field	CEMSS User's Guide Number	Card 71 Coding Considerations
Process Problems Total (PROC)	A.2-19	Enter the total number of excess emission periods or minutes due to process problems.
Process Problems Unacceptable (optional)(PRUN)	A.2-21	Enter the total number of excess emission periods or minutes due to process problems that are unacceptable excess emissions, as deemed by the engineers.
Number of Incidents of Excess Emissions (EEIN)	A.2-31	Enter the total number of incidents of excess emissions.

5.3.7 Card Type 72

Card Type 72 is used to add the remaining EER summary data. A card type 71 must be entered for each card 72. The first two data elements are used for the last two of the basic nine reasons for excess emissions.

The remaining six data elements are used to classify the quarterly monitor down-time into five basic reasons and to record the number of incidents of monitor downtime above. For each reason, enter the number of periods or minutes the monitor was not operating. The data must be entered in a right-justified format (see Figure 5-6).

If none are reported for a particular reason, leave it blank. The total monitor down-time is calculated by adding the five basic reasons. Therefore, be sure to categorize every monitor down-period or minute into one of the five basic reason categories.

Data Field	CEMSS User's Guide Number	Card 72 Coding Considerations
Fuel Problems (FUEL)	A.2-27	Enter the number of excess emission periods or minutes due to fuel problems.
Other Known Excess Emissions (EEOT)	A.2-29	Enter the number of excess emission periods or minutes due to other known reasons.

Data Field	CEMSS User's Guide Number	Card 72 Coding Considerations
Monitor Equipment Malfunction (MOEQ)	A.2-35	Enter the number of periods or minutes the monitor did not operate due to a monitor equipment malfunction while the source was operating.
Nonmonitor Equipment Malfunction (NMEQ)	A.2-37	Enter the number of periods or minutes the monitor did not operate due to a monitor equipment malfunction while the source was operating.
Calibration (CALI) (Quality Assurance)	A.2-33	Enter the number of periods or minutes the monitor did not operate due to calibration while the source was operating.
Unknown (MOUN)	A.2-41	Enter the number of periods or minutes the monitor did not operate due to an unknown reason while the source was operating.
Other Known Monitor Downtime (MOOT)	A.2-39	Enter the number of periods or minutes the monitor did not operate due to other known reasons.
Number of Incidents of Monitor Downtime (MOIN)	A.2-43	Enter the total number of incidents of monitor downtime.
		In addition, Update Code must be properly entered. Enter an 'N' for a new record that does not exist on the CEMSS file, a 'C' to change an element already on file, and a 'D' to delete an existing quarterly excess emission summary.

5.3.8 Card Type 80

Card Type 80 is a comment card used to add additional information about an action that is different from the information supplied by the data elements on Card Type 70 or Card Types 71 and 72. There are 10 comment line numbers available on Card Type 80; up to 10 comments may be used to add information. New action comments may be processed at the same time that a new action record is added to the Masterfile. However, an action comment cannot be added to the system unless there is a corresponding action record already in the Masterfile.

Code columns 18-21 with the corresponding action number (Card 70) or quarter date (Card 71, 72) to which the action comment should be attached.

Code comment information in columns 28-79. Assign comment line numbers (column 27) starting sequentially with number 1 or 0. If an action has been previously added to the Masterfile, request a Source Data Report for that facility to determine what line numbers have already been used. A Card Type 8 comment must have a valid line number. The Update Code 'N' can be used only when the comment line number is not already on the Masterfile.

Use the action comments especially when existing reasons do not fully explain a specific reason why excess emissions have occurred or why a monitor is down. An example of a completed coding sheet is shown in Figure 5-6.

5.4 Changing Data on the CEMS Masterfile

Once a record has been added or copied to the CEMSS Masterfile by the Update Cycle, data on the Masterfile record can be changed in subsequent Update Cycles by using input transactions with an Update Code 'C' (M3 action types can be changed only through a CDS edit).

During a given Update Cycle, transactions with the same record identifier (region, state, county, source, point, action numbers, card type, and channel number) are applied in Update Code order. The Update will reject a change transaction if a delete or a new transaction is being applied for the same card type during the same Update Cycle. However, the Update will process multiple changes for an existing Masterfile record. Multiple changes are applied in chronological order; if a given data element is being changed by several input transactions, all input transactions are printed out on the Update Report, but only the latest change will be found on the Masterfile.

Card columns 11-26 and 80 must be coded when preparing a change transaction. However, the data elements in columns 1-26 cannot be changed by processing as a change transaction. If transactions with incorrect state, county, source, point, action, or channel numbers have been added to the CEMSS Masterfile, those records in error can be deleted and the corrections reentered with an Update Code 'N', or the user can contact TRC to have the data elements in columns 1-26 changed by the CEMS SWAP programs. When any of the data elements in columns 24-70 need to be changed, only the data element that needs changing is coded on the input coding sheet.

The following steps should be performed for a change transaction:

1. Request a Source Data or Quick Look Report for that facility to determine what data values exist on the Masterfile.
2. Decide what data elements need to be changed, and decide what card type should be used.
3. Code columns 1-26 on a coding sheet. Code a 'C' in column 80.
4. Code only those data elements that need changing. The Update Program will change only those data elements that are entered on the card; other data elements on the Masterfile will not be changed.
5. Have coding sheets entered and submit the transaction records to the CEMSS Edit Program or use the WYLBUR Interactive data-entry technique.
6. Use a change transaction, and not a delete transaction, to remove one or more data elements from a Masterfile record. Data elements in columns 24-70 of Card Types 51, 52, 71, 72 or columns 27-70 can be blanked out be placing one or more asterisks (*) in the data element that is to be eliminated. An asterisk will remove only the data element to be blanked out and will not change any other data elements on the Masterfile record for that card type. On the Card 70, an asterisk on "date scheduled" or on "date achieved" will zero-fill the data element, because these data elements cannot be blanked. An asterisk cannot be used to change any data elements in card columns 1-21 and 24-26; if a record with an incorrect state, county, source number, point, channel, or action number has been placed on the Masterfile, the incorrect data must either be deleted with an Update code 'D; and the corrected cards reentered with an Update Code'N', or the error must be reported to TRC for correcting through the CEMS SWAP.

   Because asterisks are used on change transactions to blank out a data element, asterisks may not be used on new transactions. A warning message (*ASTERISKS FOR CHANGES) is issued by the Edit Program if asterisks are found on any transaction with an Update Code 'N'. Asterisks are not placed on the Masterfile in the Update Cycle.

Figure 5-7 is an example of change transactions for Cards 51, 52, 70, 71, and 72.

On Card 51 the monitor model was coded incorrectly when this source was initially entered, and the proper model number is being reentered.

Because many PSTs can occur during the history of a source, the data elements PST Date, PST Status, and PST Status, and PST Report Date will be changed periodically. In this case, a recent PST was conducted successfully on 2/15/81. The changes reflecting the new PST are shown in Figure 5-7 on Card 5-2. Also the date achieved was incorrectly coded and is being modified with a change command on Card 70.

The SOOT (cleaning/soot blowing) was coded incorrectly for that data element on Card 71. An asterisk is employed to delete the data element from the CEMSS Masterfile. Finally, the number of incidents of Monitor Down Time was coded incorrectly for that data element on Card 72. The correct value is being entered to replace the incorrect value on the CEMSS Masterfile.

5.5 WYLBUR Interactive Data Entry Technique

In some cases, the amount of CEMS data entry work may not justify the creation of a data entry routine on the regional or state minicomputer. For those users, a WYLBUR Interactive data entry technique is available.

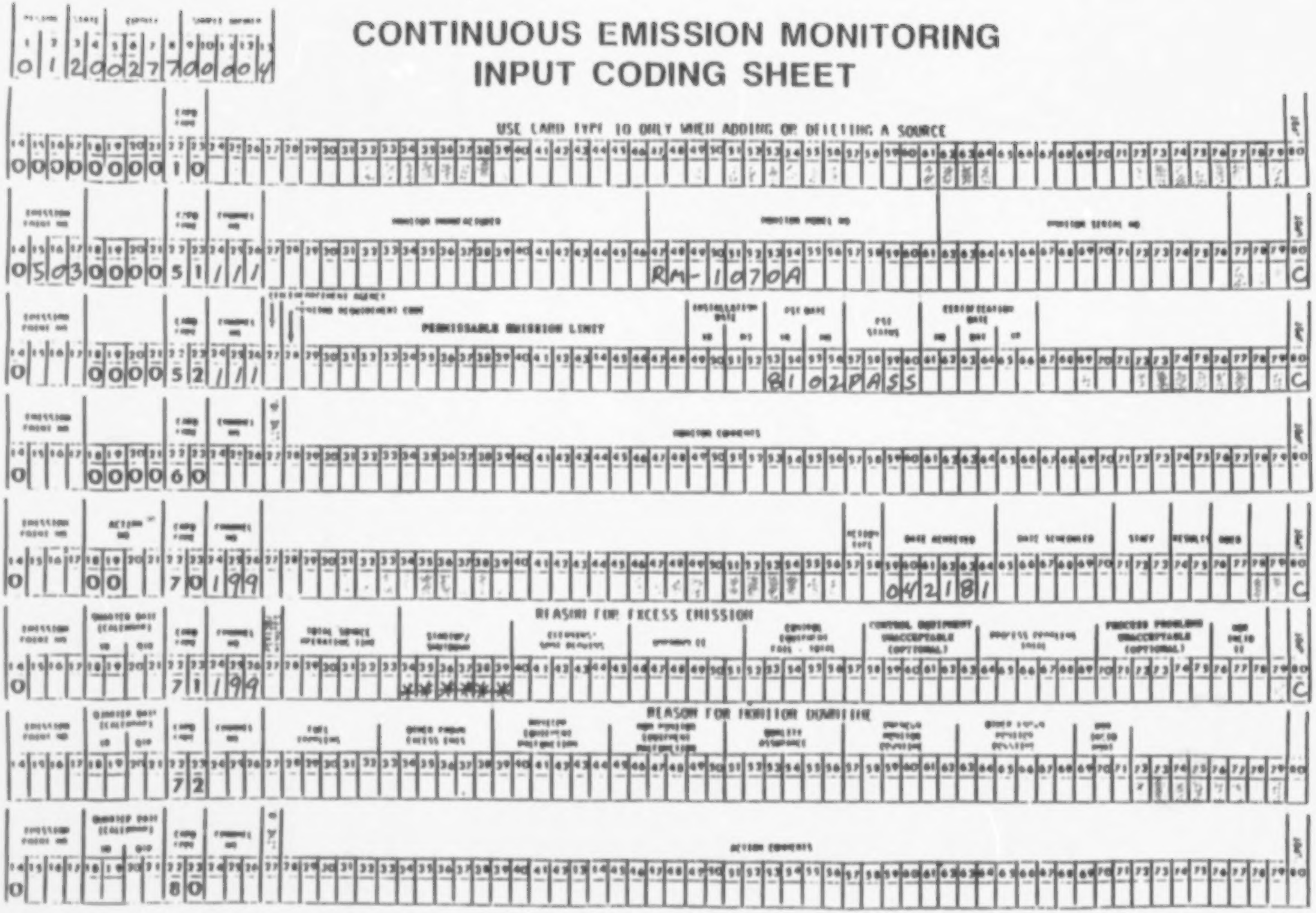
The interactive features are as follows:

- Screen prompting for input of Card Types 10, 51, 52, 60, 70, 71, 72, and 80.
- Edit capabilities
  - Internal edits
  - After each card is entered
  - After all cards are entered
- Default operating times
- Restart capability if dropped from NCC

- Capability to add to or change an already created WYLBUR file
- Save data on WYLBUR file
- Automatic live edit and dummy edit capabilities
- Automatic assigning of proper edit JCL (USER ID, account, box).

To enter data using the WYLBUR Interactive technique, perform the following. An example of data entry for a 51 card is shown in Figure 5-8.

1. Sign on to the appropriate user ID and account.
2. Type CEMSINPUT
3. the screen prompting will begin.



CONTINUOUS EMISSION MONITORING
INPUT CODING SHEET

0 1 2 00 2 7 7 00 00 4

USE CARD TYPE 10 ONLY WHEN ADDING OR DELETING A SOURCE

0000 0000 1 0

0 5 03 0000 5 1 / / / RM-1070A C

0 0000 5 2 / / / PERMISSIBLE EMISSION LIMIT 81 02 PASS C

0 0000 6 0

0 00 7 0 1 99 04 21 81 C

REASON FOR EXCESS EMISSION

0 7 1 / 99 ****** C

REASON FOR MONITOR DOWNTIME

7 2

0 8 0

Figure 5-7. CEMS Coding Sheet with Change Transactions

```
? CEMINPUT
DO YOU WISH TO USE THE INPUT PROGRAM
FOR EXPERIENCED USERS .. (Y/N)->N
THIS EXEC WILL PRODUCE FORMATTED CEM EDIT
TRANSACTIONS AND SUBMIT A CEM EDIT RUN..................
     - HIT CARRIAGE RETURN FOR NO DATA ENTERED
     - ENTER  END     FOR NO MORE DATA TO BE ENTERED
     - ENTER  KILL    FOR NO MORE DATA FOR PRESENT CARD
     - ENTER  EXEC    IN RESPONSE TO 'EXEC BREAK' MESSAGE
     - ENTER  REJECT TO REJECT THIS CARD AND START AGAIN

ARE YOU RESTARTING THIS ROUTINE
AFTER THE SYSTEM HAS DROPPED YOU  (DROP)......
DO YOU WISH TO ADD TO A DATA FILE
SAVED DURING A PREVIOUS SESSION   (ADD)....
OR ARE THESE YOUR INITIAL ENTRIES (FIRST)....
ENTER DROP, FIRST OR ADD ->FIRST
ENTER CEM EDIT TRANSACTION CARD TYPE (10.51.52.60.70.71.80) ->52
IS TRANSACTION SIMILAR TO THE PRVIOUS TRANSACTION AT THE
             SOURCE, POINT AND CHANNEL LEVEL  (ENTER 'C')
             SOURCE AND POINT LEVEL ONLY      (ENTER 'P')
             SOURCE LEVEL ONLY                (ENTER 'S')
OR IS TRANSACTION  FOR A NEW SOURCE ?         (ENTER 'N')
ENTER  C,P,S OR N ->N
ENTER TRANSACTION TYPE  - N  FOR NEW
                          C  FOR CHANGE
                          D  FOR DELETE ->C
ENTER 2 DIGIT REGION CODE ->07
ENTER 2 DIGIT STATE CODE ->17
ENTER 4 DIGIT COUNTY CODE ->2222
ENTER 5 DIGIT SOURCE CODE ->90001
ENTER 4 DIGIT EMMISSION POINT NO  CODE ->00001
 EMMISSION POINT NO  IS A 4 DIGIT NUMERIC CODE...
ENTER 4 DIGIT EMMISSION POINT NO  CODE ->0001
ENTER 3 DIGIT CHANNEL NUMBER ->001
ENTER CEM ENFORCEMENT AGENCY ->1
ENTER REQUIREMENT CODE FOR MONITOR ->9
ENTER 20 CHARACTER PERMIS EMISSION LIMIT ->20% OPAC/6 MIN PERD
ENTER MONITOR INSTALLATION DATE (YYMM) ->7901
ENTER PST DATE (YYMM) ->8601
ENTER PST STATUS (PASS OR FAIL) ->PASS
ENTER MONITOR CERTIFICATION DATE (MMDDYY) ->123181
    1.     071722229000100010000520011920% OPAC/6 MIN PERD 79018601PASS123181
          C
DO YOU WISH TO MODIFY OR DELETE THE TRANSACTION JUST CREATED...
ENTER "MOD" "DELETE" OR "NO" ->NO
ENTER CEM EDIT TRANSACTION CARD TYPE (10.51.52.60.70.71.80) ->END
DO YOU WISH TO LIST THE DATA JUST ENTERED (YES OR NO) ->YES
    1.     071722229000100010000520011920% OPAC/6 MIN PERD 79018601PASS123181
          C
DO YOU WISH TO MODIFY OR DELETE THE TRANSACTION(S) JUST CREATED...
ENTER "MOD" "DELETE" OR "NO" ->NO
DO YOU WISH TO SAVE THIS DATA? ->YES
PLEASE ENTER A DATASET NAME TO SAVE THIS DATA UNDER ->EDIT0886
EDIT0886 SAVED AND CATLG'D ON USR013
DO YOU WISH TO SUBMIT AN EDIT (YES OR NO) ->YES
ENTER THE 2 DIGIT REGION CODE (EX. 07)
OR STATE ABBREVIATION (EX. IA) ->07
DO YOU WISH TO SUBMIT A LIVE OR DUMMY EDIT?
ENTER LIVE OR DUMMY ->DUMMY
ENTER PRIORITY (DEFAULT IS 4) ->2
JOB 5374 CDS03 SUBMITTED
JOB SUBMITTED .....  CEMINPUT COMPLETE......
```

Figure 5-8. WYLBUR Interactive Data Entry

SECTION 6.0

EDIT PROCESSING

6.0 EDIT PROCESSING

6.1 Edit Program Usage

Once data for the CEMSS has been coded and entered, users must validate the input transactions by running the CEMSS Edit Program. The Edit can be run at any time, and it can be run any number of times in between Update Cycles. However, it is best to coordinate the scheduling of Edit runs to correspond to the scheduling of the Update Cycle. Allow time to correct any errors that may be detected by the Edit.

The Edit validates each of the punched card types one at a time. Note that some transactions that pass the Edit may be rejected later by the Update. In the Update Cycle, all of the transactions for a given facility will be rejected if the facility and emission point level data are not already present in the CEMSS. With the hierarchical relationship among sources, point, and action transactions, an error at a higher level can create additional errors in the Update Cycle for transactions accepted by the Edit. For this reason it is very important to correct and resubmit errors as quickly as possible.

Valid transactions related to CDS-associated data are stored on the CDS Mod File; all other valid transactions are stored on the CEMSS Mod File. The CDS Masterfile is updated on Wednesday night.

Transactions that meet the following criterion are passed to the CDS Mod File:

- Action type is M3 for a Card Type 70.
- Changes to the CDS-CEMS Indicator (CEMI) for sources added to or deleted from CEMS.

All transactions are validated by the Edit Program. The Edit Report produced by the Edit Program lists the action taken on each input transaction. If an input transaction has no edit error messages next to it on the Edit Report, it is a valid transaction. One or more error messages are printed on the Edit Report next to transactions in error. Errors are identified as either warning or fatal. One or more fatal errors will prevent the transaction from being saved for the Update Cycle. A transaction with only warning errors will be saved for the Update, but the data elements in error are blanked out. The user must review the Edit Report carefully to verify accepted data and to make appropriate corrections for rejected data.

6.2 Edit Error Messages

All of the errors identified by the Edit Program are listed in Table 6-1. All error messages preceded by three asterisks indicate a fatal error. Error messages preceded by one asterisk indicate a warning error.

Transactions with one or more fatal errors will not be placed on the CEMSS Mod File. Transactions with no errors or with only warning errors will be placed on the CEMSS Mod File for future processing by the Update. Keep in mind that a data element flagged with a warning message is blanked by the Edit.

For a detailed explanation of the valid values for each data element in the CEMS system, see Appendix A. Coding instructions are given for each data element; edit error messages by data element are repeated in this appendix. Certain data elements in Appendix A contain no edit error messages; these data elements are not validated by the Edit and may contain any alphanumeric characters.

6.3 CEMS Edit Report

Each page of the report contains the report title, the region name, the date, and the time at which the Edit was run by the computer. The report also contains column headings for the following data elements: Region, State,

TABLE 6-1

EDIT ERROR MESSAGES

DATA ELEMENT NAME	MESSAGE
REGION	*** INVALID REGION CODE
STATE	*** INVALID STATE CODE
COUNTY CODE	*** INCORRECT COUNTY CODE FOR STATE *** COUNTY CODE MUST BE NUMERIC
SOURCE NUMBER	***SOURCE NUMBER MUST BE NUMERIC
CARD CODE	*** CARD TYPE AND/OR LEVEL IS INVALID
CARD 1-0	* CARD 10 CEMSI TRANSFERRED TO CDS *** NO DATA IN COL. 24-79 FOR CARD 10
UPDATE CODE	*** INVALID UPDATE CODE *** INVALID UPDATE CODE FOR CARD 10
EMISSION POINT	*** EMISSION POINT MUST BE ZEROS *** EMISSION POINT MUST BE NUMERIC *** POINT MUST BE GREATER THAN ZERO *** EMISSION POINT MUST BE NUMERIC *** POINT NO. MUST BE LESS THAN 1000
ACTION NUMBER	*** ACTION NUMBER MUST BE ZEROS *** ACTION NUMBER MUST BE > THAN ZERO *** ACTION NUMBER MUST BE ZEROS *** ACTION NUMBER MUST BE NUMERIC *** ACTION NUMBER MUST BE LESS THAN 0099 * ANUM 0099 ON M3 NEW - 0099 ASSUMED
QUARTER DATE (ANUM)	*** INVALID QUARTER DATE
CHANNEL NUMBER	*** CHANNEL MUST BE GREATER THAN 100 *** CHANNEL NUMBER MUST BE NUMERIC
AGENCY CODE	* AGENCY CODE MUST BE 1, 2, 3, or 4
REQUIREMENT	* REQ. CODE MUST BE 0, 3, 5, 6, or 9
PST STATUS	* PST STATUS MUST BE PASS OR FAIL
LINE NUMBER	*** LINE NUMBER MUST BE NUMERIC

TABLE 6-1

EDIT ERROR MESSAGES (Continued)

DATA ELEMENT NAME	MESSAGE
ACTION TYPE	*** INVALID ACTION TYPE
	*** ACTION TYPE REQUIRED ON NEW ENTRY
	* INVALID DATE VALUE - OUTPUT SPACES
EER DATA (M3 ACTION)	* CARD 70 DATA TRANSFERRED TO CDS
	* CHAN 000 ON M3 NEW - ZEROS ASSUMED
	*** M3 CHANGE NOT VALID ON CHAN > 000
DATE FIELDS	* INVALID DATE VALUE - OUTPUT ZEROS
DATE ACHIEVED	* INVALID DATE ACHVD - OUTPUT ZEROS
DATE SCHEDULED	* INVALID DATE SCHED - OUTPUT ZEROS
STAFF CODE	* INVALID STAFF CODE
RESULTS CODE	* INVALID RESULTS CODE
ACTION DELETE	*** INVALID ACTION DELETE
	* DT SCHED SHOULD BE ON NEW-OP ZEROS
USE OF ASTERISKS	* ASTERISKS ONLY FOR CHANGE TRANS
TIME PERIOD	*** TIME PERIOD MUST BE A-G OR M
SOURCE OPERATING TIME	* OPER TIME CHANGED TO EER DEFAULT
	*** OPERATING TIME MUST BE NUMERIC
	* SOURCE OPERATING TIME IS ZERO
	* SOURCE OPERATING TIME IS BLANK
	* OPERATING TIME CHANGED TO ZERO
	* OPERATING TIME NOT IN PERIODS
REASON FIELDS	*** REASON FIELD MUST BE NUMERIC
	* REASON NOT IN PERIODS
EXCESS EMISSIONS	* TOTAL EXCESS EMIS > OPERATING TIME
	* TOTAL EXCESS EMIS > MONITOR UPTIME
MONITOR DOWNTIME	* MONITOR DOWNTIME > OPERATING TIME
DELETES	*** NO DATA IN COL. 27-79 FOR DELETES
	*** NO DATA IN COL. 28-79 FOR DELETES

County, Source, Point, Action, Channel Number, Card Type, Card Level, and Update Code. Directly beneath these column headings are two rows of numbers indicating card columns; the position of any data on the card can be determined by referring to these card column identifiers.

Error messages are identfied on the right-hand side of the report. In addition, data elements in error will have one or more asterisks directly beneath the data element to help pinpoint the problem area that needs to be corrected. Figure 6-1 is a sample of the Edit Report produced by the Edit Program.

6.4 Edit Job Control Language

To execute the Edit Program, use the JCL shown in Figure 6-2. A number of options are available with the Edit Program:

1. Card input on a dummy basis. This option enables the user to see the Edit Report produced by the input transactions without actually placing the transactions on the output Mod File. The dummy mode is particularly useful if the user is expecting a considerable number of errors, which can be corrected and resubmitted prior to the Update Cycle. The user should remember that no valid transactions on the Edit Report are passed to the Update when the dummy mode is being used. Use the type of JCL shown in Figure 6-3.

2. Input form tape or disk. Input from a disk or a tape file can be processed by the Edit just as easily as punchcard input.

```
                                          CONTINUOUS EMISSIONS MONITORING EDIT REPORT
                                                           REGION 1-BOSTON
                                           TRANSACTIONS ENTERED ON 08/14/86 AT 20:33                                        PAGE 002
.....................................................................................................................................
                           C C       CT=CARD TYPE/CL=CARD LEVEL                      UPDATE.     ERROR MESSAGES
RG ST CNTY SRCE  PTND ANUM T L CHAN               CARD COLUMNS:                        CODE. *   WARNING - DATA ELEMENT REJECTED
0           1           2            3         4         5         6         7           8 . *** FATAL   - CARD REJECTED
12 34 5678 90123 4567 8901 2 3 45678901234567890123456789012345678901234567890123456789  0
.....................................................................................................................................

01 20 0885 60005 0001 8502 7 1 111M131000000000000000000000000186000024000000000000005   C .
01 20 0885 60005 0001 8502 7 2 111000000000000000000000186000024000000000000003          C .
01 20 0885 60005 0001 8502 7 1 211M1310000000000000000000000000000000000000300000000005   C .
01 20 0885 60005 0001 8502 7 2 21100000000000000000000000000000000003000000000003          C .
01 20 0885 60005 0001 8502 7 1 511M131000000000000000000000000000000000000864000000005   C .
01 20 0885 60005 0001 8502 7 2 511000000000000000000000000000000000864000000003          C .
01 20 0885 60005 0001 8503 7 1 111M123730000156000000000000000810000810000000000000005   C .
01 20 0885 60005 0001 8503 7 2 111000156000000000000000810000810000000000000003          C .
01 20 0885 60005 0001 8503 7 1 211M123730000000000000000000001005001005000000000000005   C .
01 20 0885 60005 0001 8503 7 2 211000000000000000000001005001005000000000000003          C .
01 20 0885 60005 0001 8503 7 1 511M123730000720000000000000000000000000000630000000005   C .
01 20 0885 60005 0001 8503 7 2 511000720000000000000000000000000000630000000003          C .
01 20 0885 60005 0001 8504 7 1 111M132078000000000000000000000084000084000000000000005   C . *** OPERATING TIME > MAX FOR ONE QTR
                                   ******                                                  .
01 20 0885 60005 0001 8504 7 2 111000000000000000000000084000084000000000000003          C . *** CARD 7-2 REQUIRES VALID CARD 7-1
                                                                                           .
01 20 0885 60005 0001 8504 7 1 211M132078000000000000000000001065001065012420000000005   C . *** OPERATING TIME > MAX FOR ONE QTR
                                   ******                                                  .
01 20 0885 60005 0001 8504 7 2 211000000000000000000001065001065012420000000003          C . *** CARD 7-2 REQUIRES VALID CARD 7-1
                                                                                           .
01 20 0885 60005 0001 8504 7 1 511M132078000000000000000000000000000000001435000000005   C . *** OPERATING TIME > MAX FOR ONE QTR
                                   ******                                                  .
01 20 0885 60005 0001 8504 7 2 511000000000000000000000000000000001435000000003          C . *** CARD 7-2 REQUIRES VALID CARD 7-1
                                                                                           .
01 20 0885 60005 0001 8601 7 1 111M129600000000000000000000000348000348000000000000005   C .
01 20 0885 60005 0001 8601 7 2 111000000000000000000000348000348000000000000003          C .
01 20 0885 60005 0001 8601 7 1 211M12960000000000000000000000000000000000000000000005   C .
01 20 0885 60005 0001 8601 7 2 21100000000000000000000000000000000000000000003          C .
01 20 0885 60005 0001 8601 7 1 511M129600000000000000000000000000000000001830000000005   C .
01 20 0885 60005 0001 8601 7 2 511000000000000000000000000000000001830000000003          C .
01 22 1291 00010 0501 8601 7 1 141M000000000000000000000000000000000000000000000000005   C .
01 22 1291 00010 0501 8601 7 2 14100000000000000000000000000000000000000000003          C .
01 22 1291 00012 0501 8403 7 1 111M042060000010000057000000000000000000000000000000005   C .
01 22 1291 00012 0501 8403 7 2 111000010000057000000000000000000000000000000003          C .
01 22 1291 00012 0501 8404 7 1 111M004320000001000001000000000000000000000000000000005   C .
01 22 1291 00012 0501 8404 7 2 111000001000001000000000000000000000000000000003          C .
01 22 1291 00012 0501 8501 7 1 111M083760000173000149000000000007000007000000000000005   C .
01 22 1291 00012 0501 8501 7 2 111000173000149000000000007000007000000000000003          C .
01 22 1291 00012 0501 8502 7 1 111M125040000181000717000000000010000010000000000000005   C .
01 22 1291 00012 0501 8502 7 2 111000181000717000000000010000010000000000000003          C .
01 22 1291 00012 0501 8503 7 1 111M132480000110000460000002000019000019000000000000005   C . *** OPERATING TIME > MAX FOR ONE QTR
                                   ******                                                  .
01 22 1291 00012 0501 8503 7 2 111000110000460000002000019000019000000000000003          C . *** CARD 7-2 REQUIRES VALID CARD 7-1
                                                                                           .
01 22 1291 00012 0501 8504 7 1 111M132480000022000357000002000023000023000000000000005   C . *** OPERATING TIME > MAX FOR ONE QTR
                                   ******                                                  .
01 22 1291 00012 0501 8504 7 2 111000022000357000002000023000023000000000000003          C . *** CARD 7-2 REQUIRES VALID CARD 7-1
                                                                                           .
01 22      00012 0501 8601 7 1 111M126400000019001661000000000   00069000000000000005   C .
01 22      00012 0501 8601 7 2 1110000190016610000000000690000    0000000000003          C .
```

Figure 6-1. Sample Edit Report

FIGURE 6-2

CEMSS EDIT JOB CONTROL

```
//III JOB (AAAAUID,MIII),'USER ID',TIME=(0,3),PRTY=2

/*ROUTE PRINT RMTRR

//CEMSEDIT EXEC CEMSEDIT

//STEP1.SORTIN DD *

                 -- Input Transactions --

//
```

where: RR is the user's remote number or RMTRR is replaced with the user's N number designation for the new printers where available.
III is the user's initials.
AAAAUID is the user's account number and user ID.

FIGURE 6-3

USING CEMSEDIT WITH DUMMY MODE

```
//III JOB (AAAAUID,MIII),'User ID',TIME=(0,3),PRTY=2

/*ROUTE PRINT RMTRR

//CEMSEDIT EXEC CEMSEDIT,TYPE='DUMMY,'

//STEP1.SORTIN DD *

                 -- Input Transactions --

//
```

where: RR is the user's remote number or RMTRR is replaced with the user's N number designation for the new printers where available.
III is the user's initials.
AAAAUID is the user's account number and user ID.

SECTION 7.0

UPDATE PROCESSING

7.0 UPDATE PROCESSING

The Update Cycle applies input transactions to the Masterfile. All input transactions that contain no fatal errors are stored on the Mod File by the Edit Program. During the Update Cycle, all transactions placed on the Mod File since the last update are applied to the Masterfile by the Update Program.

7.1 Update Program Description

Prior to the Update Program, all input transactions from the Mod File are sorted into the same sequence as used in the Masterfile. The output Masterfile from the previous Update Cycle becomes the input Masterfile on the current cycle. The Update applies input transactions to the Masterfile to produce a new version of the Masterfile as output.

The Update Program performs the following functions:

1. Copies entire CDS sources subject to CEMS regulations to the CEMSS Masterfile, automatically updating all CDS-associated data on the CEMSS Masterfile.
2. Adds monitor, EER summary data, and comments
3. Changes monitor, EER summary data, and comments
4. Deletes monitors, actions, EER summaries, and comments.

Delete transactions are allowed for Card Type 51, 60, 70 (except for M3 actions), 71, and 80 records. In addition, a Card 10 delete is valid if a user wishes to remove a source from the CEMSS Masterfile; a Card 1 delete has no effect on the CDS Masterfile other than to clear the CEMS Indicators at all levels and will not remove any data from CDS.

7.2 Update Scheduling

The scheduling and maintenance of the update cycle is the responsibility of the National Compliance Data System DBC, Franklin C. Smith. The valid transactions on the Mod File are applied to the CEMSS Masterfile by the Update Program. Call the national CDS DBC at FTS 382-2881 or 1-202-382-2881 if you need a special Update Cycle in order to apply your transactions to the CDS/CEMSS Masterfiles.

7.3 Update Report

The Update Program produces an Update Report, which is stored on a computer file. If the user had transactions that were entered into the Update Cycle, the National CDS DBC will have the Update Report run for each user, and it will print at the user's remote printer.

The Update Report has one print line for each transaction sent to the Update Program by the Edit Program. Next to each transaction on the report, there is an Update Action column, which shows that the transaction was either added, changed, deleted, or rejected from the CEMSS Masterfile. If the transaction was rejected, there will also be an error message explaining why the transaction could not be added, changed, or deleted.

All errors appearing on the Update Report should be corrected, coded, and then resubmitted to the CEMSS through the Edit Program.

Figure 7-1, is a sample of the Update Report produced by the Update Cycle.

7.4 Update Report Messages

On the Update Report, the Update Action column indicates the action taken by the Update Program on each transaction passed by the Edit. The normal Update Action message is ADDED, CHANGED, COPIED, OR DELETED.

The word REJECT in the Update Action column indicates that the Update Program could not perform the appropriate add, change, or delete indicated by the transaction's Update Code. For each rejected transaction, a diagnostic error message is printed out. Table 7-1 lists all of the errors identified by the Update. An explanation of the corrective procedures for each Update error message is also given in this table.

```
                                                     UPDATE REPORT

************************************************************************************************************************************
    03/14/86                                 CONTINUOUS MONITORING SYSTEM                                 PAGE 001
                                                    REGION  1-BOSTON
                                                 OUTPUT SERIAL 000197

************************************************************************************************************************************
 ST  CNTY  SOURCE EMIS CHAN  ACT  CARD                                                                 UPDT UPDATE  ERROR
CODE CODE  CODE    PT   NO    NO  CODE-LEVEL       CARD COLUMNS:                                       CODE ACTION  MESSAGE
 0           1            2                    3         4         5         6         7                8
 34  5678  90123  4567  890  1234   5    6  78901234567890123456789012345678901234567890123456789       0

************************************************************************************************************************************

 20  0277  00016  0011  111  8501   7    1  M129600000000000000000000000690000012000000000000       0   C  CHANGED
 20  0277  00016  0011  111  8501   7    2  000000000000000000000690000012000000000000       00000000   C  CHANGED
 20  0277  00016  0011  211  8501   7    1  M129600000000000000000000002880002880003102000000       0   C  CHANGED
 20  0277  00016  0011  211  8501   7    2  000000000000000000002880002880003102000000       00000000   C  CHANGED
 20  0277  00016  0011  311  8501   7    1  M129600000000000000000000000540000540003102000000       0   C  CHANGED
 20  0277  00016  0011  311  8501   7    2  000000000000000000000540000540003102000000       00000000   C  CHANGED
 20  0277  00016  0011  111  8502   7    1  M131040000000000000000060000018000001200074400000 0       0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011  111  8502   7    2  000000000000000600000180000012000744000000       00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011  311  8502   7    1  M131040000000000000000000000000000000000024000000       0   C  CHANGED
 20  0277  00016  0011  311  8502   7    2  000000000000000000000000000000000024000000       00000000   C  CHANGED
 20  0277  00016  0011  111  8503   7    1  M123960000696000006000006002622002622000000000000       0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011  111  8503   7    2  000696000006000006002622002622000000000000       00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011  311  8503   7    1  M123960000000000000000000004260004260009300000000       0   C  CHANGED
 20  0277  00016  0011  311  8503   7    2  000000000000000000004260004260009300000000       00000000   C  CHANGED
 20  0277  00016  0011  111  8601   7    1  M129600000000000000000001200000600000600000000000 0       0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011  111  8601   7    2  000000000000000012000006000006000000000000       00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  00016  0011  311  8601   7    1  M129600000000000000000000000000000000002220000000       0   C  CHANGED
 20  0277  00016  0011  311  8601   7    2  000000000000000000000000000000002220000000       00000000   C  CHANGED
 20  0277  90004  0001  111  8501   7    1  M057660002388000282000000003301003231000174000516       0   C  CHANGED
 20  0277  90004  0001  111  8501   7    2  002388000282000000003301003231000174000516       00000000   C  CHANGED
 20  0277  90004  0001  311  8501   7    1  M057660000000000000000000009000009000000198001518       0   C  CHANGED
 20  0277  90004  0001  311  8501   7    2  000000000000000000009000009000000198001518       00000000   C  CHANGED
 20  0277  90004  0001  111  8502   7    1  M030660005514000000000000000846000846001093000000       0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001  111  8502   7    2  005514000000000000000846000846001093000000       00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001  111  8503   7    1  M051240005307000006000018002064002064000480001842       0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001  111  8503   7    2  005307000006000018002064002064000480001842       00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001  111  8504   7    1  M109140002844000000000000000073200073200006000 0558       0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001  111  8504   7    2  002844000000000000000073200073200006000 0558       00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001  111  8601   7    1  M107640002016000000000000000034200034200018000 0510       0   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0001  111  8601   7    2  002016000000000000000034200034200018000 0510       00000000   C  *REJECT  NO MATCH-CMT/CDS
 20  0277  90004  0003  311  8502   7    1  M030660000000000000000000000840000840002233000000       0   C  CHANGED
 20  0277  90004  0003  311  8502   7    2  000000000000000000000840000840002233000000       00000000   C  CHANGED
 20  0277  90004  0003  311  8503   7    1  M051240000000000000000000003000003000002160001842       0   C  CHANGED
 20  0277  90004  0003  311  8503   7    2  000000000000000000003000003000002160001842       00000000   C  CHANGED
 20  0277  90004  0003  311  8504   7    1  M109140002100000000000000000000000000000300001122       0   C  CHANGED
```

Figure 7-1. Sample Update Report

TABLE 7-1

UPDATE ERROR MESSAGES

Update Error Message	Explanation
NO MATCH-CMT/CDS	Card 10 and Cards 51 through 80 cannot be applied to the Masterfile as change or delete transactions if a corresponding Masterfile record does not exist. Make sure that the source exists on the Masterfile; verify that the correct state, county, and source number are being used on the transaction.
INVALID NEW COMMENT	An emission point comment Card 60 cannot be added to the Masterfile unless the corresponding point and channel numbers already exist on the Masterfile. An action comment Card 80 cannot be added to the Masterfile unless the corresponding point, channel, and action numbers already exist on the Masterfile.
DUPLICATE TRANS	If two or more transactions with the same region, state, county, source, point, and action numbers have an Update code 'N', the first transaction is added to the Masterfile; and the second and subsequent transactions are rejected with this message. A change transaction following a new transaction for the same record IDis rejected. Duplicate delete transactions are also rejected.
ALREADY ON FILE	A transaction with an Update Code 'N' cannot be added to the Masterfile if a Masterfile record already exists with the same region, state, county, source, point, and action numbers. Also a new comment cannot be added if a comment with the same record identifier line number already exists on the Masterfile.
ANUMS DEPLETED	This message occurs when the user attempts to add a CEMS action and the system-generated action number for the point and channel number has exceeded 98.

TABLE 7-1

UPDATE ERROR MESSAGES (Concluded)

Update Error Message	Explanation
INVALID NEW CH-ADD-1	Card 51 cannot be added to the Masterfile with an Update Code'N' unless there is a corresponding emission point already on the Masterfile. Make sure that the emission point exists on the Masterfile if channel number information is being added to the Masterfile.
INVALID NEW CH-ADD-2	Card 52 cannot be added to the Masterfile with an Update Code 'N' unless there is a corresponding emission point already on the Masterfile or the channel number has already been established on the Masterfile. Check to see that the emission point already exists on the Masterfile.
INVALID NEW ACTN-ADD-0	Card 70 cannot be added to the Masterfile with Update Code 'N' unless there is a corresponding emission point and channel number that already exist on the Masterfile. Check to see that the emission point and channel number already exist on the Masterfile.
INVALID NEW ACTN-ADD-1	Card 71 cannot be added to the Masterfile with Update Code 'N' unless there is a corresponding emission point and channel number that already exist on the Masterfile. Check to see that the emission point and channel number already exist on the Masterfile.

SECTION 8.0

RETRIEVAL PROCESSING

8.0 RETRIEVAL PROCESSING

The CEMSS Retrieval is used to prepare management reports based on information on the Masterfile. The Retrieval has been developed to provide a great deal of flexibility to users in selecting and formatting management reports. Data can be formatted, sequenced, and selected on the basis of criteria developed to meet specific needs.

All output reports other than the Edit Report and the Update Report are produced on request from the Retrieval Program. Requests for management reports may be made at any time, because they are processed independently of the Update Cycle. The retrieval provides users with the capability of seeing what data is on the Masterfile in a format that meets the user's needs.

To obtain reports from the Retrieval Program, the user must carefully prepare a Retrieval request form and submit this form to have the selection cards entered and submitted to the National Computer Center computer through WYLBUR. The selection cards and appropriate JCl cards are used to run the Retrieval. The user submits this input to the central computer site through the terminal using WYLBUR. Output from the Retrieval Program consists of a Retrieval Edit Report and the management reports requested by the user.

The Retrieval Program provides the following features:

- Quick turnaround - the Retrieval operates on a "demand" basis and will usually provide overnight or faster turnaround, depending on the backlog of work at the computer center.
- Improved selectivity - Information can be selected from the Masterfile to meet the specific needs of the user so that smaller, more pertinent reports can be prepared. For example, a user who needs a list of point source facilities with a monitor installation date between 10/1/80 and 9/30/81 could get a Quick Look Report that shows only these facilities and the particular information wanted (name, size, monitor emission limits, etc.) on a single line.
- Selection logic - Each user can select from the CEMSS Masterfile only the data of interest for a particular need. The user can select data based on the presence or absence of information on the

Masterfile, depending on the type of selection criteria specified on the logic selection input card.

- Variable sequence - The Retrieval program permits the user to select the sequence for viewing the selected data.
- Variable output format - The users can select from nine print formats, depending on need. One format is a single-line report with a user option allowing inclusion of any specific data elements desired.

Because all management reports are based on the CEMSS retrieval capability, users should place data on the Masterfile in a manner that permits efficient retrievals. Comment information cannot be used in the Retrieval's selection or sorting criteria. When preparing input data for the CEMSS, users should be aware of the validation procedures for each data element performed by the CEMSS Edit as well as the selection, sorting, and printing criteria available in the Retrieval.

8.1 Reports Available from the Retrieval

Management reports are not automatically generated; users must request reports from the CEMSS Retrieval system to suit their particular needs. Only sources subject to CEMS regulations are stored on the CEMSS Masterfile. From these sources, users must determine what information available on the CEMSS Masterfile is of interest. Users may obtain all of the information on the Masterfile or a limited amount based on their needs.

Any of the defined data elements can be used as a selection criteria. Because the selection, sorting, and printing criteria of the Retrieval Program operate independently, users may select a report on one set of data elements, sort on another set of data elements, and select different data elements for printing. Selection criteria cannot be based on information found in comment records.

Reports are printed in region, state, county, and source number sequence unless users elect their own sorting sequences. Up to six defined data elements may be used to create the user sort sequence.

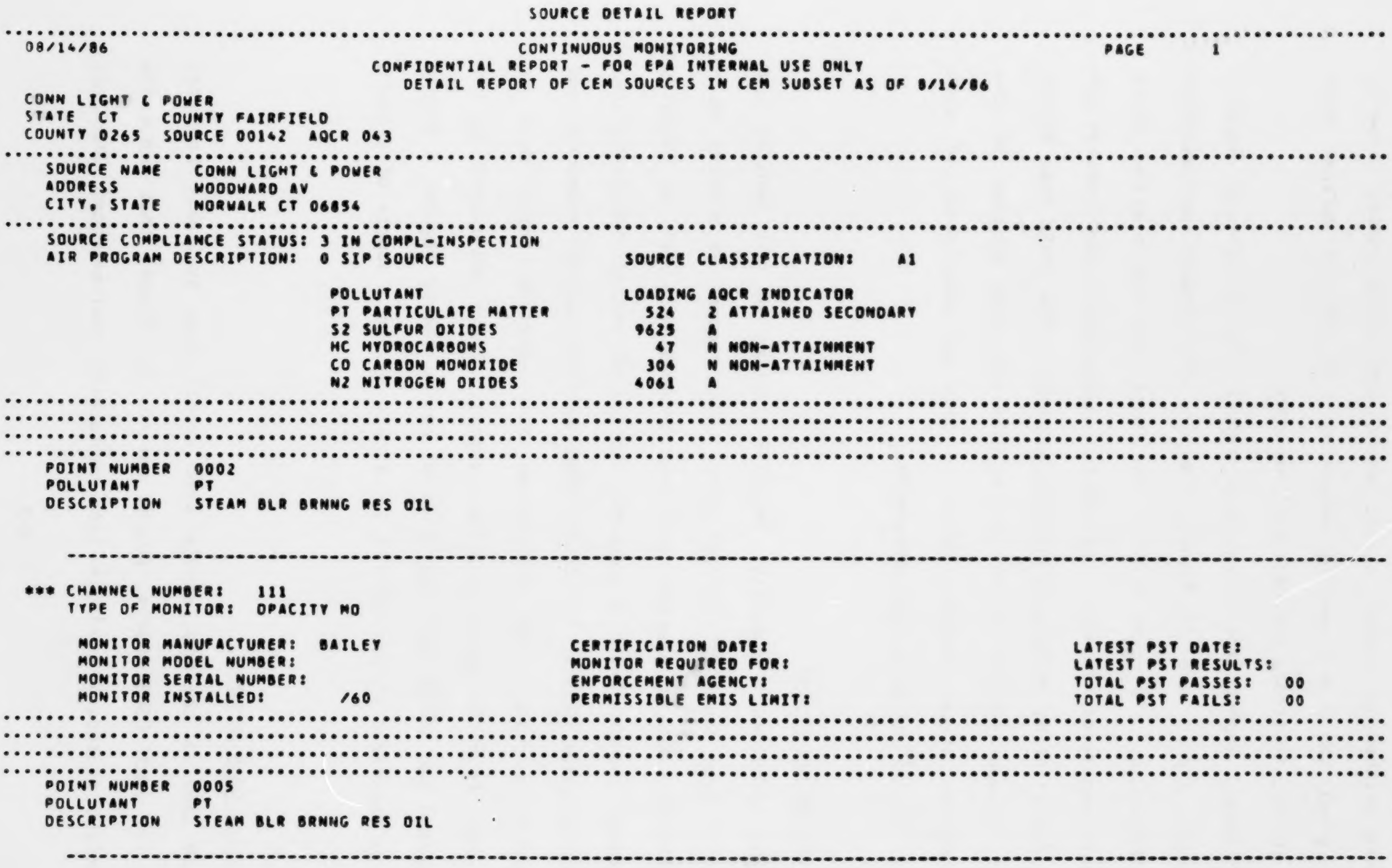
The CEMSS Detail Report, the Source Data Report, the Statistical Report, the Questionnaire Report, and the Milestone Report will present user-selected and sorted information in a fixed format. The Quick Look Report allows users to design their own report formats. All data elements other than comments can be formatted for printing in a user-selected sequence. The CEMSS Stat Report will present elementary statistics on a user-specified portion of the Masterfile (region, state, source, etc.). A detailed description of each report is provided in the following paragraphs.

8.1.1 CEMS Detail Report

This report provides a complete, detailed listing of all monitor and excess emission data for CEMS sources only. This report is similar to a Source Data Report, but it presents only source-level data such as facility name and address together with a complete listing of monitor manufacturers, model number, emission limits, PST dates, CEMS actions, monitor comments, and excess emission periods. No information for emission point data or enforcement data from CDS appears on this report. Users interested in the complete CDS and the CEMSS data for a given source should request a Source Data Report as described in Section 8.1.4. Figure 8-1 is a sample of a CEMSS Detail Report.

8.1.2 Quick Look Report

The Quick Look is the most widely used report type available from the Retrieval. For each CEMS source, point, action, or channel that meets the user's selection criteria, a single line containing user-selected CDS/CEMSS



```
                                             SOURCE DETAIL REPORT
..........................................................................................................
 08/14/86                                   CONTINUOUS MONITORING                            PAGE      1
                                  CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                                     DETAIL REPORT OF CEM SOURCES IN CEM SUBSET AS OF 8/14/86
 CONN LIGHT & POWER
 STATE  CT     COUNTY FAIRFIELD
 COUNTY 0265  SOURCE 00142  AQCR 043
..........................................................................................................
   SOURCE NAME   CONN LIGHT & POWER
   ADDRESS       WOODWARD AV
   CITY, STATE   NORWALK CT 06854
..........................................................................................................
   SOURCE COMPLIANCE STATUS: 3 IN COMPL-INSPECTION
   AIR PROGRAM DESCRIPTION:  0 SIP SOURCE                SOURCE CLASSIFICATION:    A1

                             POLLUTANT                   LOADING AQCR INDICATOR
                             PT PARTICULATE MATTER          524   2 ATTAINED SECONDARY
                             S2 SULFUR OXIDES              9625   A
                             HC HYDROCARBONS                 47   N NON-ATTAINMENT
                             CO CARBON MONOXIDE             304   N NON-ATTAINMENT
                             N2 NITROGEN OXIDES            4061   A
..........................................................................................................
..........................................................................................................
..........................................................................................................
..........................................................................................................
   POINT NUMBER  0002
   POLLUTANT     PT
   DESCRIPTION   STEAM BLR BRNNG RES OIL


     -----------------------------------------------------------------------------------------------------

 *** CHANNEL NUMBER:   111
     TYPE OF MONITOR:  OPACITY MO

      MONITOR MANUFACTURER:  BAILEY             CERTIFICATION DATE:                LATEST PST DATE:
      MONITOR MODEL NUMBER:                     MONITOR REQUIRED FOR:              LATEST PST RESULTS:
      MONITOR SERIAL NUMBER:                    ENFORCEMENT AGENCY:                TOTAL PST PASSES:   00
      MONITOR INSTALLED:       /60              PERMISSIBLE EMIS LIMIT:            TOTAL PST FAILS:    00
..........................................................................................................
..........................................................................................................
..........................................................................................................
..........................................................................................................
   POINT NUMBER  0005
   POLLUTANT     PT
   DESCRIPTION   STEAM BLR BRNNG RES OIL

     -----------------------------------------------------------------------------------------------------
```

Figure 8-1. CEMS Detail Report

```
                                        SOURCE DETAIL REPORT
...............................................................................................
08/14/86                               CONTINUOUS MONITORING                             PAGE      2
                              CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                                DETAIL REPORT OF CEM SOURCES IN CEM SUBSET AS OF 8/14/86
CONN LIGHT & POWER
STATE  CT     COUNTY FAIRFIELD
COUNTY 0265  SOURCE 00142  AQCR 043
...............................................................................................

*** CHANNEL NUMBER:   111
    TYPE OF MONITOR:  OPACITY MO

     MONITOR MANUFACTURER:  BAILEY              CERTIFICATION DATE:                   LATEST PST DATE:
     MONITOR MODEL NUMBER:                      MONITOR REQUIRED FOR:                 LATEST PST RESULTS:
     MONITOR SERIAL NUMBER:                     ENFORCEMENT AGENCY:                   TOTAL PST PASSES:   00
     MONITOR INSTALLED:       /60               PERMISSIBLE EMIS LIMIT:               TOTAL PST FAILS:    00
...............................................................................................
```

Figure 8-1. CEMS Detail Report (Continued)

data elements is formatted for printing. The user may specify what data elements are printed and also the spacing of these data elements.

A standard Quick Look print line contains state, county, source, point, action number, and channel number together with up to 14 other user-selected data elements. The only restriction is the print line length of 104 characters. Users may suppress state, county, source, point, action number, and channel number on each Quick Look line by using the no-header (NOHD) option. This option allows the full use of the 132 character print line for user-selected data elements. Figure 8-2 is a sample Quick Look showing monitor data for CEMS sources in Maine and Massachusetts.

Data elements are printed on the Quick Look line in the same order they are requested on the print-format selection card. For spacing purposes, the user may select one of the two special data elements: BLK1 produces a blank column five characters wide; BLK2 produces a blank column 15 characters wide. These two data elements may be used repeatedly for spacing as required. BLK1 and BLK2 are especially useful when the Quick Look is used as a turnaround document.

At the end of the Quick Look Report, a total is given for the number of lines printed. This total represents the sum of all items meeting the user's selection criteria. A page break and subtotals are also available on the user-selected data elements. The user is cautioned to request page breaks and subtotals only for those data elements that produce logical groupings, such as State, AQCR, Action Type, etc.

Users may select their own sequencing for the Quick Look Report. Often two Quick Look Reports with the same selection criteria provide users with a great deal of insight when the reports are sequenced differently.

```
                                        QUICK LOOK REPORT
..............................................................................................................
   08/15/86                               CONTINUOUS EMISSION MONITORING SYSTEM                          PAGE      2
                                       CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                                         SOURCES IN CEM SUBSET AS OF 8/14/86

..............................................................................................................

ST CNTY SOURC PTNO CHA ANUM PTNO MONITOR REQD    AGCD    MONITOR MANUFACTURER CERT DTE MIND  PSTD  PERMIS EMIS LIMIT
..............................................................................................................
              0011 311 0000 0011 NOX     NSPS    EPA-RGN LEAR SIEGLER         11/02/82 82/02 82/11 0.7 LBS/MBTU NOX
20 0277 90004 0000 000 0000 0000         UNKNOWN UNKNOWN                        /  /     /     /
              0001 000 0000 0001         UNKNOWN UNKNOWN                        /  /     /     /
              0001 111 0000 0001 OPACITY NSPS    EPA-RGN ENV. DATA CORP(EDC)  03/20/80 78/11 79/07 20 % OPACITY
              0001 311 0000 0001 NOX     NSPS    EPA-RGN ENV. DATA CORP(EDC)  03/20/80 78/11 79/07 0.3 LBS/MBTU NOX
              0002 000 0000 0002         UNKNOWN UNKNOWN                        /  /     /     /
              0003 000 0000 0003         UNKNOWN UNKNOWN                        /  /     /     /
              0003 311 0000 0003 NOX     NSPS    UNKNOWN                        /  /     /     /   0.7 LB/MBTU 3 HR PRD
20 0885 60005 0000 000 0000 0000         UNKNOWN UNKNOWN                        /  /     /     /
              0001 000 0000 0001         UNKNOWN UNKNOWN                        /  /     /     /
              0001 111 0000 0001 OPACITY NSPS    EPA-RGN LEAR SIEGLER         06/11/81 81/04 81/06 35 % OPACITY
              0001 211 0000 0001 SO2     NSPS    EPA-RGN LEAR SIEGLER         11/17/81 81/03 81/11 39 GRAMS/SEC.
              0001 511 0000 0001 HC      NSPS    EPA-RGN ITT BARTON           08/14/84 81/04     /   5 PPM/12 HR PERIOD
              0002 000 0000 0002         UNKNOWN UNKNOWN                        /  /     /     /
22 1291 00010 0000 000 0000 0000         UNKNOWN UNKNOWN                        /  /     /     /
              0001 000 0000 0001         UNKNOWN UNKNOWN                        /  /     /     /
              0002 000 0000 0002         UNKNOWN UNKNOWN                        /  /     /     /
              0501 000 0000 0501         UNKNOWN UNKNOWN                        /  /     /     /
              0501 141 0000 0501 OPACITY ENFORCE UNKNOWN PHOTOMATION            /  /   77/   77/   20% OPAC/6 MIN PERD
              0501 151 0000 0501 OPACITY ENFORCE UNKNOWN PHOTOMATION            /  /   77/   77/
              0501 161 0000 0501 OPACITY ENFORCE UNKNOWN PHOTOMATION            /  /   77/   77/
              0502 000 0000 0502         UNKNOWN UNKNOWN                        /  /     /     /
              0999 000 0000 0999         UNKNOWN UNKNOWN                        /  /     /     /
22 1291 00012 0000 000 0000 0000         UNKNOWN UNKNOWN                        /  /     /     /
              0001 000 0000 0001         UNKNOWN UNKNOWN                        /  /     /     /
              0002 000 0000 0002         UNKNOWN UNKNOWN                        /  /     /     /
              0501 000 0000 0501         UNKNOWN UNKNOWN                        /  /     /     /
              0501 111 0000 0501 OPACITY OTHER   EPA-RGN PHOTOMATION            /  /   77/03 77/   20% OPACITY
              0502 000 0000 0502         UNKNOWN UNKNOWN                        /  /     /     /
              0502 111 0000 0502 OPACITY OTHER   EPA-RGN PHOTOMATION            /  /   77/03 77/   20% OPACITY
              0999 000 0000 0999         UNKNOWN UNKNOWN                        /  /     /     /
22 1291 00128 0000 000 0000 0000         UNKNOWN UNKNOWN                        /  /     /     /
              0001 000 0000 0001         UNKNOWN UNKNOWN                        /  /     /     /
              0002 000 0000 0002         UNKNOWN UNKNOWN                        /  /     /     /
              0003 000 0000 0003         UNKNOWN UNKNOWN                        /  /     /     /
              0004 000 0000 0004         UNKNOWN UNKNOWN                        /  /     /     /
              0005 000 0000 0005         UNKNOWN UNKNOWN                        /  /     /     /
              0006 000 0000 0006         UNKNOWN UNKNOWN                        /  /     /     /
              0007 000 0000 0007         UNKNOWN UNKNOWN                        /  /     /     /
              0008 000 0000 0008         UNKNOWN UNKNOWN                        /  /     /     /
```

Figure 8-2. Quick Look Report

Three different Retrieval report formats can be requested from the same Retrieval. Thus, the Quick Look Report can serve as a summary or index to one of the longer report formats such as the Source Data Report.

8.1.3 Double-Spaced Quick Look Report

This report is identical to the Quick Look Report, except that a double space is provided between print lines. This feature is especially useful when the report is to be used as a turnaround document. The Quick Look and Double-Spaced Quick Look Reports cannot be requested simultaneously. Figure 8-3 is a sample of a Double-Spaced Quick Look Report.

8.1.4 Two-Line Quick Look Report

The Two-Line Quick Look Report prints the source name (SNME), street address (STRT), city name (CYNM), state abbreviation (STAB), air program code (APCD), air program status (APST), SIC code (SICC), source classification code (CLAS), and source compliance code (SCMS) on the first line of a Quick Look Report. The items selected by the user on the "40" card appear on the second line of the report. The first line, containing only source information, will print only once per source and is available both with and without suppression and the use of the NOHD options.

Use "QD" (Quick Look Double Line) on the "20" card in place of "QL" or "Q2." Figure 8-3.1 shows a Two-Line Quick Look Report.

8.1.5 Source Data Report

The Source Data Report is the most comprehensive report available from the Retrieval. All CDS/CEMSS data elements are included on this report for CEMS sources only; this is the only report that gives complete source information, source comment information, point information, point comment information,

```
                                        QUICK LOOK REPORT
.......................................................................................................................
 08/14/86                               CONTINUOUS EMISSION MONITORING SYSTEM                       PAGE     3
                                    CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                                       SOURCES IN CEM SUBSET AS OF 8/14/86

.......................................................................................................................
ST CNTY SOURC PTNO CHA ANUM PTNO MONITOR REQD    AGCD    MONITOR MANUFACTURER CERT DTE MIND  PSTD  PERMIS EMIS LIMIT
.......................................................................................................................

              0011 311 0000 0011 NOX     NSPS    EPA-RGN LEAR SIEGLER         11/02/82 82/02 82/11 0.7 LBS/MBTU NOX

20 0277 90004 0000 000 0000 0000         UNKNOWN UNKNOWN                        /  /     /     /

              0001 000 0000 0001         UNKNOWN UNKNOWN                        /  /     /     /

              0001 111 0000 0001 OPACITY NSPS    EPA-RGN ENV. DATA CORP(EDC)  03/20/80 78/11 79/07 20 % OPACITY

              0001 311 0000 0001 NOX     NSPS    EPA-RGN ENV. DATA CORP(EDC)  03/20/80 78/11 79/07 0.3 LBS/MBTU NOX

              0002 000 0000 0002         UNKNOWN UNKNOWN                        /  /     /     /

              0003 000 0000 0003         UNKNOWN UNKNOWN                        /  /     /     /

              0003 311 0000 0003 NOX     NSPS    UNKNOWN                        /  /     /     /   0.7 LB/MBTU 3 HR PRD

20 0885 60005 0000 000 0000 0000         UNKNOWN UNKNOWN                        /  /     /     /

              0001 000 0000 0001         UNKNOWN UNKNOWN                        /  /     /     /

              0001 111 0000 0001 OPACITY NSPS    EPA-RGN LEAR SIEGLER         06/11/81 81/04 81/06 35 % OPACITY

              0001 211 0000 0001 SO2     NSPS    EPA-RGN LEAR SIEGLER         11/17/81 81/03 81/11 39 GRAMS/SEC.

              0001 511 0000 0001 HC      NSPS    EPA-RGN ITT BARTON           08/14/84 81/04   /   5 PPM/12 HR PERIOD

              0002 000 0000 0002         UNKNOWN UNKNOWN                        /  /     /     /

22 1291 00010 0000 000 0000 0000         UNKNOWN UNKNOWN                        /  /     /     /

              0001 000 0000 0001         UNKNOWN UNKNOWN                        /  /     /     /

              0002 000 0000 0002         UNKNOWN UNKNOWN                        /  /     /     /

              0501 000 0000 0501         UNKNOWN UNKNOWN                        /  /     /     /

              0501 141 0000 0501 OPACITY ENFORCE UNKNOWN PHOTOMATION            /  /   77/   77/   20% OPAC/6 MIN PERD

              0501 151 0000 0501 OPACITY ENFORCE UNKNOWN PHOTOMATION            /  /   77/   77/
```

Figure 8-3. Double-Spaced Quick Look Report

```
                                             QUICK LOOK REPORT
........................................................................................................................
 08/15/86                              CONTINUOUS EMISSION MONITORING SYSTEM                            PAGE      2
                                  CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                                     MONITOR INFORMATION IN NEW JERSEY(TWO-LINE QL)

........................................................................................................................
ST CNTY SOURC PTNO CHA ANUM SOURCE NAME          STREET ADDRESS       CITY NAME        ST APCD  APST SICC CLAS SCMS
                            AGCD    MONITOR MANUFACTURER MONITOR MODEL   MONITOR SERIAL  MINO  CERT DTE MONITOR REQD
........................................................................................................................
              0010 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0011 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0011 111 0000 EPA-RGN LEAR SIEGLER         RM41             0201766        82/02 11/02/82 OPACITY NSPS
              0011 211 0000 EPA-RGN LEAR SIEGLER         SM810            0214470        82/02 11/02/82 SO2     NSPS
              0011 311 0000 EPA-RGN LEAR SIEGLER         SM810            0214470        82/02 11/02/82 NOX     NSPS
20 0277 90004 0000 000 0000 WYMAN STA.UNIT 4     CENTRAL MAINE POWER  YARMOUTH         ME  9    0    4911 A1   2
                            UNKNOWN                                                        /     /  /           UNKNOWN
              0001 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0001 111 0000 EPA-RGN ENV. DATA CORP(EDC)  DIGA SERIES      2538-1         78/11 03/20/80 OPACITY NSPS
              0001 311 0000 EPA-RGN ENV. DATA CORP(EDC)  DIGA SERIES      2538-1         78/11 03/20/80 NOX     NSPS
              0002 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0003 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0003 311 0000 UNKNOWN                                                        /     /  /   NOX     NSPS
20 0885 60005 0000 000 0000 BOISE-CASCADE CORP.  OXFORD PAPER DIV.    RUMFORD          ME  6    0    2621 A1   4
                            UNKNOWN                                                        /     /  /           UNKNOWN
              0001 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0001 111 0000 EPA-RGN LEAR SIEGLER         RM41             0301534        81/04 06/11/81 OPACITY NSPS
              0001 211 0000 EPA-RGN LEAR SIEGLER         SM810            040365U        81/03 11/17/81 SO2     NSPS
              0001 511 0000 EPA-RGN ITT BARTON           411              129            81/04 08/14/84 HC      NSPS
              0002 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
22 1291 00010 0000 000 0000 BOSTON ED-L STREET   776 SUMMER ST        BOSTON           MA  0    0    4911 A1   3
                            UNKNOWN                                                        /     /  /           UNKNOWN
              0001 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0002 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0501 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0501 141 0000 UNKNOWN PHOTOMATION          SIR-88                          77/     /  /   OPACITY ENFORCE
              0501 151 0000 UNKNOWN PHOTOMATION          SIR-88                          77/     /  /   OPACITY ENFORCE
              0501 161 0000 UNKNOWN PHOTOMATION          SIR-88                          77/     /  /   OPACITY ENFORCE
              0502 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0999 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
22 1291 00012 0000 000 0000 BOSTON ED-NEW BOSTON 776 SUMMER ST        BOSTON           MA  0    0    4911 A1   3
                            UNKNOWN                                                        /     /  /           UNKNOWN
              0001 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0002 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0501 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0501 111 0000 EPA-RGN PHOTOMATION          SIR-8                           77/03   /  /   OPACITY OTHER
              0502 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
              0502 111 0000 EPA-RGN PHOTOMATION          SIR-8                           77/03   /  /   OPACITY OTHER
              0999 000 0000 UNKNOWN                                                        /     /  /           UNKNOWN
```

Figure 8-3.1. Two-Line Quick Look Report

action comment information, and monitor and excess emission information. Figure 8-4 presents a three page sample of a Source Data Report with both CDS and CEMSS data on it.

Each new facility is printed on a new page. Facilities with many points and actions use multiple pages per facility.

For those in charge of maintaining the accuracy of the CEMSS Masterfile, Source Data Reports by state provide an essential coding tool. For those interested only in part of the Masterfile, report selection criteria can be based on any retrievable data elements.

Although Source Data Reports can be sorted by any user-selected data elements retrieval on the Masterfile, users should not select point or action-level data elements as their major sort key. To produce a meaningful report, users should keep all of the records for a given facility together by sorting on the source level. If no user sort key is specified, Source Date Reports are printed in the Masterfile sort order: region, state, county, source, point, action number, and channel number.

8.1.6 Milestone Report

The Milestone Report produces a tally of data based on two data elements selected by the user. Any two retrievable CDS/CEMSS data elements at the source, point, or action level may be chosen. One data element determines the rows produced; the other data element determines the columns produced. Note that the user chooses the row data element and that the Milestone Report will produce one line of output for each different value found on the file for that data element. To determine which values for the column data element are to be printed, the user must supply the column data element and the specific values for that data element. A maximum of 10 values will be accepted.

```
.............................................................SOURCE DATA REPORT
  08/14/86  .....................................................................................................................
                                                     CONTINUOUS EMISSION MONITORING SYSTEM
                                                CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY                        PAGE      1
 CONN LIGHT & POWER                                 DETAIL REPORT OF CEM SOURCES IN CEM SUBSET AS OF 8/14/86
 STATE  CT     COUNTY FAIRFIELD
 COUNTY 0265  SOURCE 00142  AQCR 043  CITY 0820                                                          FEDF   NON-FED       RDE1 1
...........................................................................................................APCO 0 SIP SOURCE     RDE2
   SOURCE NAME    CONN LIGHT & POWER                                                                      APST 0 OPERATING       RDE3
   ADDRESS        WOODWARD AV                  STATE REGIST  137-014           SIC  4911 ....................................................
   CITY, STATE    NORWALK CT 06854             NEDS XREF     4214              RDE4                    RDE6
                                               PRIORITY      0                 RDE5                    STAFF MEMBER
                                                                                                       LAST-UPDATE     1/24/86
                           COMMENTS: 1  HARBOUR STATION
                                     2  ELECTRIC CO
                                     3  FACILITY BURNS SOME PROPANE
...........................................................................................................................
   DUN & BRADSTREET NO.      CTO980191407
   SOURCE COMPLIANCE STATUS  3 IN COMPL-INSPECTION          SOURCE CLASSIFICATION:   A1 .....................................
   FACILITY CAPACITY           RDE 9                                                                  SIGNIFICANT VIOLATION IND
   POLLUTANT                   COMPLIANCE                    RDE 10                                   LOAD DRV A-ACTUAL
   PT PARTICULATE MATTER        2 IN COMPL-SOURCE TEST                            RDE 11              RDE 12
   S2 SULFUR OXIDES             2 IN COMPL-SOURCE TEST                            AQCR INDICATOR
   HC HYDROCARBONS              0 COMPL STATUS UNKNOWN                            2 NON-ATTAINMENT-SEC              LOADING
   CO CARBON MONOXIDE           0 COMPL STATUS UNKNOWN                            A ATTAINMENT AREA
   N2 NITROGEN OXIDES           2 IN COMPL-SOURCE TEST                            N NON-ATTAINMENT
..........................................................................................N NON-ATTAINMENT
   POINT NUMBER  0000    MULT                                                             A ATTAINMENT AREA
   PCLLUTANT                                    SOURCE CMPL 3 IN COMPL-INSPECTION ...........................................
   DESCRIPTION   ELECTRIC SERVICES               SOURCE-SIP    NO SCHEDULE             STATE/LOC REGUL
                                                CAPACITY
                                                                                       SCCB CODE                         RDE7
                           COMMENTS: 1  STATE REGIS NO:0028,0030,0031

      CEM ACTION 0004   SCHD  2/ 3/77   ACHV  2/ 3/77   ACT-TYPE AB   STTE NOTICE OF VIOLATION
                                            STAFF
                        COMMENTS: 1  NOV #4472 - 19-508-22(A)(2)                                 RESULTS  01 ACTION ACHIEVED
      CEM ACTION 0006   SCHD 10/ 3/77   ACHV 10/ 3/77   ACT-TYPE 13   STATE INSPECTION
                                            STAFF
      CEM ACTION 0007   SCHD  1/12/79   ACHV  1/12/79   ACT-TYPE 13   STATE INSPECTION          RESULTS  01 ACTION ACHIEVED
                                            STAFF
      CEM ACTION 0008   SCHD  2/16/79   ACHV  2/16/79   ACT-TYPE 63   EPA INSPECTION OVERVIEW   RESULTS  01 ACTION ACHIEVED
                                            STAFF
      CEM ACTION 0009   SCHD  3/20/80   ACHV  3/20/80   ACT-TYPE AB   STTE NOTICE OF VIOLATION  RESULTS  01 ACTION ACHIEVED
                                            STAFF
                        COMMENTS: 1  NOV #7613 - 19-508-20(A)(3)                                 RESULTS  01 ACTION ACHIEVED
      CEM ACTION 0010   SCHD  6/15/81   ACHV  6/15/81   ACT-TYPE 13   STATE INSPECTION
                                            STAFF
      CEM ACTION 0011   SCHD  5/ 7/82   ACHV  5/ 7/82   ACT-TYPE 13   STATE INSPECTION          RESULTS
                                            STAFF
      CEM ACTION 0012   SCHD  7/ 6/83   ACHV  7/ 6/83   ACT-TYPE 13   STATE INSPECTION          RESULTS
```

Figure 8-4   Source Data Report

```
                                         SOURCE DATA REPORT
.........................................................................................................
05/14/86                         CONTINUOUS EMISSION MONITORING SYSTEM                     PAGE      2
                             CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                               DETAIL REPORT OF CEM SOURCES IN CEM SUBSET AS OF 9/14/86
                                                                               FEDF   NON-FED       RDE1 1
CONN LIGHT & POWER                                                             APCO 7 UNKNOWN       RDE2
STATE  CT    COUNTY FAIRFIELD                                                  APST D OPERATING     RDE3
COUNTY 0265  SOURCE 00142  AQCR 043  CITY 0820
.........................................................................................................
                                      STAFF                                    RESULTS
        CEM ACTION 0013   SCHD  3/20/84   ACHV  3/20/84   ACT-TYPE 13   STATE INSPECTION
                                      STAFF                                    RESULTS
        CEM ACTION 0014   SCHD  3/ 6/85   ACHV  3/ 6/85   ACT-TYPE 13   STATE INSPECTION
                                      STAFF                                    RESULTS
.........................................................................................................
  POINT NUMBER  0001    MULT            POINT CMPL  4 IN COMPL-CERTIFICATN   STATE/LOC REGUL 19-508-19(A)(2)
  POLLUTANT     S2                      POINT-SIP     NO SCHEDULE                                          RDE7
  DESCRIPTION   STEAM BLR BRNNG RES OIL CAPACITY                             SCC8 CODE      10100403

                        COMMENTS: 2  #6 OIL
.........................................................................................................
  POINT NUMBER  0002    MULT 001        POINT CMPL  2 IN COMPL-SOURCE TEST   STATE/LOC REGUL 19-508-18(D)(1)
  POLLUTANT     PT                      POINT-SIP     NO SCHEDULE                                          RDE7
  DESCRIPTION   STEAM BLR BRNNG RES OIL CAPACITY                             SCC8 CODE      10100403

                      . COMMENTS: 2  CYCLONE & ELECTROSTATIC PRECIPITATOR
.........................................................................................................

    -----------------------------------------------------------------------------------------------------

*** CHANNEL NUMBER:    111
    TYPE OF MONITOR:   OPACITY

     MONITOR MANUFACTURER:  BAILEY          CERTIFICATION DATE:                   . LATEST PST DATE:
     MONITOR MODEL NUMBER:                  MONITOR REQUIRED FOR:   UNKNOWN        LATEST PST RESULTS:
     MONITOR SERIAL NUMBER:                 ENFORCEMENT AGENCY:     UNKNOWN        TOTAL PST PASSES:   00
     MONITOR INSTALLED:        /60          PERMISSIBLE EMIS LIMIT:                TOTAL PST FAILS:    00
.........................................................................................................
  POINT NUMBER  0003    MULT 001        POINT CMPL  2 IN COMPL-SOURCE TEST   STATE/LOC REGUL 19-508-22(A)(2)
  POLLUTANT     N2                      POINT-SIP     NO SCHEDULE                                          RDE7
  DESCRIPTION   STEAM BLR BRNNG RES OIL CAPACITY                             SCC8 CODE      10100403
.........................................................................................................
```

Figure 8-4. Source Data Report (Continued)

```
                                                  SOURCE DATA REPORT
...........................................................................................................................
 04/14/86                                      CONTINUOUS EMISSION MONITORING SYSTEM
                                          CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY                    PAGE      3
                                            DETAIL REPORT OF CEM SOURCES IN CEM SUBSET AS OF 8/14/86
 CONN LIGHT & POWER
 STATE  CT     COUNTY FAIRFIELD                                                                  FEDF   NON-FED       RDE1 1
 COUNTY 0265   SOURCE 00142  AQCR 043  CITY 0820                                                 APCD   SIP SOURCE    RDE2
...........................................................................................................................
   POINT NUMBER   0004     MULT            POINT CMPL  4 IN COMPL-CERTIFICATN                    APST 0 OPERATING     RDE3
   POLLUTANT      S2                       POINT-SIP     NO SCHEDULE          STATE/LOC REGUL 19-508-19(A)(2)
   DESCRIPTION    STEAM BLR BRNNG RES OIL  CAPACITY
...........................................................................................................................
                                                                              SCC8 CODE        10100403                   RDE7
   POINT NUMBER   0005     MULT 004        POINT CMPL  2 IN COMPL-SOURCE TEST
   POLLUTANT      PT                       POINT-SIP     NO SCHEDULE          STATE/LOC REGUL 19-508-18(D)(1)
   DESCRIPTION    STEAM BLR BRNNG RES OIL  CAPACITY
                                                                              SCC8 CODE        10100403                   RDE7
                         COMMENTS: 2  ELECTROSTATIC PRECIPITATOR
...........................................................................................................................

...........................................................................................................................
       -----------------------------------------------------------------------------------------------------------------
*** CHANNEL NUMBER:    111
    TYPE OF MONITOR:   OPACITY

     MONITOR MANUFACTURER:  BAILEY
     MONITOR MODEL NUMBER:                        CERTIFICATION DATE:
     MONITOR SERIAL NUMBER:                       MONITOR REQUIRED FOR:    UNKNOWN            LATEST PST DATE:
     MONITOR INSTALLED:          /60              ENFORCEMENT AGENCY:      UNKNOWN            LATEST PST RESULTS:
                                                  PERMISSIBLE EMIS LIMIT:                     TOTAL PST PASSES:    00
...........................................................................................................................
   POINT NUMBER   0006     MULT 004        POINT CMPL  2 IN COMPL-SOURCE TEST                 TOTAL PST FAILS:     00
   POLLUTANT      N2                       POINT-SIP     NO SCHEDULE          STATE/LOC REGUL 19-508-22(A)(2)
   DESCRIPTION    STEAM BLR BRNNG RES OIL  CAPACITY
                                                                              SCC8 CODE        10100403                   RDE7
```

Figure 8-4. Source Data Report (Concluded)

The totals produced by the Milestone Report reflect only data selected by the retrieval. Users care should carefully prepare retrieval selection cards so that the report produced is meaningful.

Figure 8-5 shows a tally of various monitor manufactuers state-by-state basis in EPA Region VII.

8.1.7 Single-Spaced Milestone Report

The Single-Spaced Milestone Report provides the same information as the normal Variable Milestone Report. The lines are single-spaced, which allows for twice as many printed lines per page. To obtain this report, use "M1" on the "20" card in place of "MS". Figure 8.5-1 gives a sample of the Single-Spaced Milestone Report.

8.1.8 Three Element Milestone Report

A third or controlling data element is available for use on the Milestone Report. A page break will occur each time the values of this third controlling data element changes.

To request a Three Element Milestone Report, enter "MS" on the "20" card, the same as for a regular Milestone Report. Enter the "50" card as for a regular Milestone Report, and enter the third or controlling data element in Columns 4 through 7 of the new "51" card (after the "50" card) to get the Three Element Milestone Report.

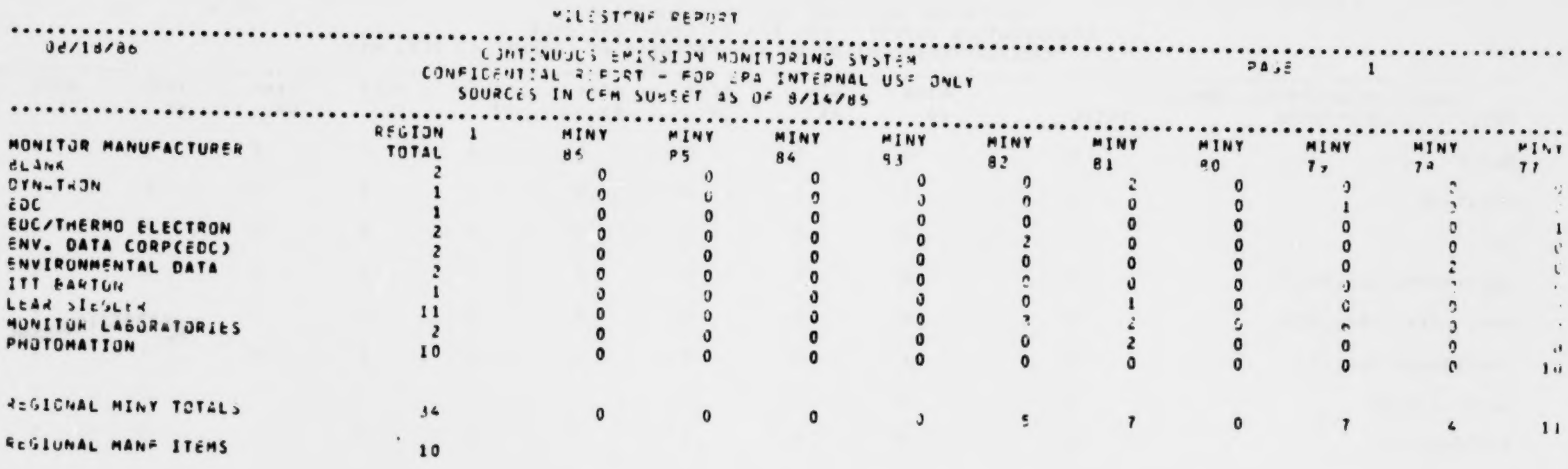
Figure 8-5.2 gives a sample of the Three Element Milestone Report.

8.1.9 CEMS Statistical Report

The CEMSS Stat Report is a fixed-format report that provides elementary statistical analysis for a selected portion of the CEMSS Masterfile. The CEMSS

```
                                   MILESTONE REPORT
....................................................................................................
  08/14/86                        CONTINUOUS EMISSION MONITORING SYSTEM                   PAGE     2
                               CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY
                                  SOURCES IN CEM SUBSET AS OF 8/14/86
....................................................................................................
                              REGION  7        STAB      STAB      STAB      STAB
MONITOR MANUFACTURER          TOTAL            IA        KS        MO        NE

LEAR SIEGLER                     53              33        13         7         0

LEEDS & NORTHRUP                  1               0         0         0         1

LSI                              18               0         3        11         4

MEASUREX                         10               2         8         0         0

NONE                              2               0         0         2         0

TECO                              2               1         0         1         0

TELEDYNE                          2               0         0         2         0

THEMOELECTRON                     1               0         0         1         0

THERMOELECTRON                    2               0         0         2         0

THERMOX                           3               2         0         1         0

UNKNOWN                           3               0         0         3         0

WATER TO FUEL RATIO               1               0         0         1         0

WESTERN RESEARCH                  2               2         0         0         0


REGIONAL STAB TOTALS          2,249             747       120     1,300        82

REGIONAL MANF ITEMS              35
```

Figure 8-5. Milestone Report



```
                                          MILESTONE REPORT
*******************************************************************************************************************
   02/18/86                                       CONTINUOUS EMISSION MONITORING SYSTEM
                                      CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY                  PAGE    1
                                          SOURCES IN CEM SUBSET AS OF 8/14/85
*******************************************************************************************************************
                                  REGION  1      MINY    MINY    MINY    MINY    MINY    MINY    MINY    MINY    MINY    MINY
MONITOR MANUFACTURER               TOTAL          86      85      84      83      82      81      80      79      78      77
BLANK                                  2            0       0       0       0       0       2       0       0       0       0
DYN-TRON                               1            0       0       0       0       0       0       0       1       0       0
EDC                                    1            0       0       0       0       0       0       0       0       0       1
EDC/THERMO ELECTRON                    2            0       0       0       0       2       0       0       0       0       0
ENV. DATA CORP(EDC)                    2            0       0       0       0       0       0       0       0       2       0
ENVIRONMENTAL DATA                     2            0       0       0       0       0       0       0       0       2       0
ITT BARTON                             1            0       0       0       0       0       1       0       0       0       0
LEAR SIEGLER                          11            0       0       0       0       3       2       0       6       0       0
MONITOR LABORATORIES                   2            0       0       0       0       0       2       0       0       0       0
PHOTOMATION                           10            0       0       0       0       0       0       0       0       0      10

REGIONAL MINY TOTALS                  34            0       0       0       0       5       7       0       7       4      11

REGIONAL MANF ITEMS                   10
```

Figure 8-5.1. Single Spaced Milestone Report

```
                                        MILESTONE REPORT
********************************************************************************************************
   08/15/86                         CONTINUOUS EMISSION MONITORING SYSTEM
                                 CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY               PAGE    1
                                   MONITOR INSTALLATION BY MANUFACTURER BY CHANNEL (3 ELE. MS)
********************************************************************************************************
   CHANNEL DESCRIPTION  OPACITY
MONITOR MANUFACTURER              TOTAL       MINY    MINY    MINY    MINY    MINY    MINY    MINY    MINY    MINY    MINY
                                              86      85      84      83      82      81      80      79      78      77
BLANK                               2          0       0       0       0       0       2       0       0       0       0

DYNATRON                            1          0       0       0       0       0       0       0       1       0       0

EDC                                 1          0       0       0       0       0       0       0       0       0       1

EDC/THERMO ELECTRON                 2          0       0       0       0       2       0       0       0       0       0

ENV. DATA CORP(EDC)                 1          0       0       0       0       0       0       0       0       1       0

ENVIRONMENTAL DATA                  2          0       0       0       0       0       0       0       0       2       0

LEAR SIEGLER                        8          0       0       0       0       1       1       0       6       0       0

PHOTOMATION                        10          0       0       0       0       0       0       0       0       0      10


CHANNEL OMINY TOTALS               27          0       0       0       0       3       3       0       7       3      11

CHANNEL OMANF ITEMS                 8
```

Figure 8-5.2. Three Element Milestone Report

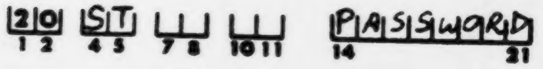
Stat Report provides ranges and mean of monitor unavailability, monitored operation without exceedances, and reported operating time with exceedances. Ranges, means, and percent of operating time are available for total excess emissions, monitor downtime, and their corresponding reason codes. The number of sources, emission points, monitors, and EERs used to calculate these statistics are included.

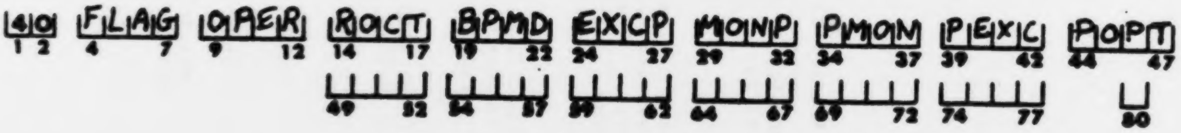
The above statistics are calculated for the entire country and for each region by Source Classification Code and by each CEM monitor.

The user is allowed to select any portion of the CEMS Masterfile to be examined. Following are examples of such selection criteria:

- Selection by monitor manufacturer (Lear Seigler)
- Selection by a specific Source Classification Code
- Selection by a specific monitor (opacity, SO_2, etc.)
- Selection by state
- Selection by source.

Because the CEMS Stat Report is fixed-format, the 20 and 40 cards are fixed format. A 30 card is not needed. The standard formats are shown below.


20
1 2
ST
4 5
7 8
10 11
PASSWORD
14
21


40
1 2
FLAG
4 7
OPER
9 12
ROCT
14 17
BPMD
19 22
EXCP
24 27
MONP
29 32
PMON
34 37
PEXC
39 42
POPT
44 47
49 52
54 57
59 62
64 67
69 72
74 77
80

Remember that the accuracy of the statistics produced are in direct relationship to the quality of the data entered.

Figure 8-6 shows an example of the CEMS Stat Report for electrical services and opacity monitors throughout the nation.

```
                                                                                                        PAGE   9

                                   CONTINUOUS EMISSIONS MONITORING SYSTEM
                              SAMPLE CEM STAT REPORT FOR TESTING (NEW)
                                        REGIONAL / NATIONAL REPORT
                                      SOURCES ACTIVELY SUBMITTING ERRS
                                              AS OF 08/15/86

                                                REGION 11

------------------------------------------------------------------------------------------------------------

               TOTAL SOURCES :                  11                     TOTAL CHANNELS :            30
               TOTAL EMISSION POINTS :          21                     TOTAL QUARTERS :           121

------------------------------------------------------------------------------------------------------------

          CONTROL :

          TYPE MONITOR :   OPACITY MONITOR

               NUMBER SOURCES :                  9                     NUMBER CHANNELS :           15
               NUMBER EMISSION POINTS :         15                     NUMBER QUARTERS :           72

                                SOURCE           MONITOR       MONITORED OPER.    REPORTED OPER.
                             OPERATION (M)    UNAVAILABILITY    W/O EXCEED.         W/ EXCEED.
                            -----------------------------------------------------------------------------------
               RANGE :       3360-  165780                      .100-    .100
               MEAN :          97442                                .100

                  EXCESS       STARTUP/       CLEANING/                   CONTROL EQUIP     PROCESS        FUEL        OTHER KNOWN
                 EMISSIONS     SHUTDOWN     SOOT BLOWING    UNKNOWN EE    FAILURE-TOTAL     PROBLEMS      PROBLEMS     EXCESS EMIS.
                            -----------------------------------------------------------------------------------------------------
        RANGE :  99999         0- 55140       0- 86800       0- 79001       0- 30000        0- 18420       0-     7       0- 93000
         MEAN :                  2864          10198          18196          264184            586                         233073
      %OPER TIME :              2.939         10.466         18.673         271.118           .601                         239.190

                  MONITOR       MONITOR      NON-MONITOR      UNKNOWN                      OTHER KNOWN
                 DOWNTIME     EQUIP MALF     EQUIP MALF    MONITOR DOWN  CALIBRATION    MONITOR DOWN
                            -----------------------------------------------------------------------------------
        RANGE :      0          0-  3200       0- 65005       9-     10      0-  4800     99939
         MEAN :                290354          16175          18065          36615
      %OPER TIME :             287.712         16.600         18.539         37.578
```

Figure 8-6. CEMS Stat Report

8.1.10 Questionnaire Report

This report has been used by some regions for direct reporting by state agencies. The report format provides a turnaround document used to report the status of various actions. Identifying data is printed on the Questionnaire Report, and it is then sent to the state agency for completion. After the state returns the coded report, the data is keypunched for reentry to the CDS data base. Figure 8-6.1 shows an example of the Questionnaire Report.

8.2 Checklist for Request Submission

The following list of steps will guide users submitting requests for retrievals. The list is sequential in that an inexperienced user would proceed in chronological order. Section 8-3 provides details for each item in this checklist.

A. Determine what you want.

   1. Review the need for information from the data base. Determine the best way to respond using the Retrieval Package. What information does the user ultimately need?

B. Code the form.

   1. Formulate a meaningful title for the report(s) and enter it on the card line 01. The title will be printed on each output page.

   2. Create the selection logic (on Card 10) to extract needed data items. This is the most complex part of the job, and it is suggested that the instructions be reviewed the first few times the package is used. If no selection is used, all facilities on the CEMSS Masterfile will be selected.

   3. Select the best format from those available. Use more than one if appropriate. Put the correct format on card line 20, using the proper two-digit report abbreviation (QL for Quick Look, Q2 for Double Spaced Quick Look, QD for Two Line Quick Look, SD for Source Data Report, MS for Milestone Report and Three Element Milestone Report, M1 for Single Spaced Milestone Report, ST for Statistical Report, DT for Detail Report, and QT for Questionnaire Report).

   4. Select the sequence of the items in the report, and fill in the card line 30 on the form. If no sequence is specified, the report will be in region, state, county order.

```
08/15/85                              QUESTIONAIRE REPORT - REGION 2
                                   CONTINUOUS EMISSION MONITORING SUBSET
..............................................................................................  PAGE    3
* SOURCE LEVEL DATA *
...................................................................................................
                                                                                     *CDS ID #: 02-31-3060-00003 *
    SOURCE NAME: CIL CHEMICALS INC.                    STATE OF NJ          COUNTY OF MIDDLESEX
        ADDRESS: CHEVALIER AVENUE                                                              AIR PROGRAM CODE: 9
                 SAYREVILLE        NJ  08872           AIR PROGRAM DESCRIPTION: NSPS        STATE REGISTRATION: 15873

      HAVE YOU RECEIVED EERS FOR THIS SOURCE?  YES - NO  (CIRCLE ONE)

. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
* POINT LEVEL DATA *
                                                                                       * CEMS ID #: POINT-0001 *
    PROCESS DESCRIPTION: NSPS SULFURIC ACID PLANT          EMISSION POINT #: 0001         STATE REGULATION: SUBPT H,60.80

                  EMISSION POINT COMMENTS
                  -------(IF ANY)--------                   ADDITIONAL EMISSION POINT COMMENTS? ______________

. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
* MONITOR LEVEL DATA *
                                                                                         * CEMS ID #: CHAN-211 *
                      PLEASE GIVE UPDATED AND ADDITIONAL INFORMATION, AS NEEDED

                     EXISTING DATA        UPDATES/ADDITIONS   :                                EXISTING DATA  UPDATES/ADDITIONS
CHANNEL # DESCRIPTION: SO2               ----------------    :   MONITOR INSTALL. DATE (YY/MM):   /         ----------------
   ENFORCEMENT AGENCY: STATE             ----------------    :        REQUIREMENT FOR MONITOR: NSPS         ----------------
 MONITOR MANUFACTURER: DUPONT            ----------------    :          LATEST PST DATE (YY/MM): 75/04      ----------------
      MONITOR MODEL #: 460               ----------------    :   LATEST PST STATUS (PASS/FAIL): PASS        ----------------
     MONITOR SERIAL #: E7331014-20       ----------------    :   CERTIFICATION DATE (MM/DD/YY):  / /        ----------------

                   MONITOR COMMENTS
                   ---(IF ANY)-----                          ADDITIONAL MONITOR COMMENTS? ___________________

      UNIT NO. 1
                                                             ------------------------------------------------
                                                             ------------------------------------------------
. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
* POINT LEVEL DATA *
                                                                                       * CEMS ID #: POINT-0002 *
    PROCESS DESCRIPTION: NSPS SULFURIC ACID PLANT          EMISSION POINT #: 0002         STATE REGULATION: SUBPT H,60.80

                  EMISSION POINT COMMENTS
                  -------(IF ANY)--------                   ADDITIONAL EMISSION POINT COMMENTS? ______________
```

Figure 8-6.1. Questionnaire Report

```
                                    QUESTIONNAIRE REPORT - REGION 2
   05/16/85                      CONTINUOUS EMISSION MONITORING SUBSET                              PAGE   -
...........................................................................................................
                                                                             *CDS ID #: 02-31-3060-00003 *

 .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .  .
* MONITOR LEVEL DATA *                                                               * CEMS ID #: CHAN-211 *

                              PLEASE_GIVE_UPDATED_AND_ADDITIONAL_INFORMATION,_AS_NEEDED

                   EXISTING_DATA       UPDATES/ADDITIONS   :                     EXISTING_DATA  UPDATES/ADDITIONS
                                                           :
 CHANNEL # DESCRIPTION: SO2            -----------------   :  MONITOR INSTALL. DATE (YY/MM):   /    -----------------
                                                           :
   ENFORCEMENT AGENCY: STATE           -----------------   :       REQUIREMENT FOR MONITOR: NSPS    -----------------
                                                           :
  MONITOR MANUFACTURER: DUPONT         -----------------   :       LATEST PST DATE (YY/MM): 75/04   -----------------
                                                           :
        MONITOR MODEL #: 460           -----------------   :  LATEST PST STATUS (PASS/FAIL): PASS   -----------------
                                                           :
      MONITOR SERIAL #: E734-31014-13  -----------------   :  CERTIFICATION DATE (MM/DD/YY):  /  /  -----------------
                                                           :
                    MONITOR COMMENTS                          ADDITIONAL MONITOR COMMENTS? ---------------------
                    ---(IF_ANY)-----
                                                              ---------------------------------------------------
       ACID UNIT NO. 2                                        ---------------------------------------------------
                                                                                    * END OF DATA FOR 00003 *
* END OF DATA FOR CIL CHEMICALS INC.    *
-----------------------------------------------------------------------------------------------------------
```

Figure 8-6.1 Questionnaire Report (Concluded)

5. Review entries on the form to see that all data element abbreviations are correct.

8.3 Preparing Retrieval Selection Cards

To request reports from the Reporting Program, you should prepare a Report Request form as shown in Figure 8-7. The Report Request form contains a layout of the standardized retrieval card formats that will be submitted to the central data center. In addition, the Report Request form contains pertinent information needed in filling out the form.

The standardized cards used for requesting reports are listed here and described in detail in the following paragraphs.

CARD	TITLE
01	Title Card
10	Logic Selection Card(s)
20	Report Format Card
30	Report Sequence Card
40	Quick Look Data Selection Card
50	Milestone Data Selection Card
51	Three Element Milestone Control Data Element

Card 01 - Title Card

Card 01 has entry spaces for the card code number, region, and report title. The card code number, 01, must be put into columns 1 and 2. The region code, columns 4 and 5, is the numeric region number of the EPA region requesting the report. All users should use '00' in this field. Currently, unlike CDS retrievals, CEMSS retrievals are run for the entire country. To get a regional retrieval, users must specify the region using the selection criteria (Card 10).

The report title (columns 9-80) is the user-specified title, which will appear on every page of the output report. Titles should be carefully chosen

CONTINUOUS EMISSION MONITORING SUBSET REPORT REQUEST FORM

DATE SUBMITTED ____________ TIME ____________

See reverse side for a list of all CEM/CDS data elements and their abbreviations.

RETURN REPORT TO ______________________________

0 1
1 2 4 5 7 9 20 30 40 50
REGION LEVEL REPORT TITLE
51 60 70 80

REPORT LOGIC SELECTION

1 0
1 2 4 DATA ELEMENT 7 9 COND. 11 VALUE (LEFT JUSTIFIED) 30

1 0

1 0

1 0

1 0

1 0

1 0

1 0

1 0

1 0

1 0

1 0

1 0

1 0

1 0

(LIMIT - 40 "10" CARDS)

LEVEL CODES (01 CARD)

REQUIRED FOR SD REPORT ONLY.
VALID ARE:

S - SOURCE ONLY
P - POINT AND SOURCE
A - ALL DATA (Default)
C - CRITERIA MATCH ONLY

CONDITION CODES (10 CARD)

M - MUST EQUAL
A - ALTERNATE (used for multiple values of a given data element)
U - UNEQUAL
G - EQUAL OR GREATER THAN
L - EQUAL OF LESS THAN
P - PRESENT ANY ENTRY
B - BLANK OR ZEROS

REPORT FORMATS (20 CARD)

PROC name for all reports is CEMRTVL

QL - QUICK LOOK
Q2 - DOUBLE SPACED QL
QD - TWO LINE QL
SD - SOURCE DATA REPORT
MS - MILESTONE REPORT
M1 - SINGLE SPACED MILESTONE
ST - STATISTICAL REPORT
DT - DETAIL REPORT
QT - QUESTIONNAIRE REPORT

REPORT FORMATS

2 0
1 2 4 5 7 8 10 11 14 21

PASSWORD (Required to Access Confidential Data Elements)

REPORT SEQUENCE

3 0
1 2 4 7 9 12 14 17 19 22 24 27 29 32 39

Number of Subtotaling Data Elements on Quick Look

(SEQUENCE LIMITED TO 40 CHARACTERS)

QUICK LOOK REPORT FORMAT

4 0
1 2 4 7 9 12 14 17 19 22 24 27 29 32 34 37 39 42 44 47
49 52 54 57 59 62 64 67 69 72 74 77 80

ENTER DATA ELEMENTS TO BE INCLUDED ON REPORT
LIMITED TO 132 CHARACTERS WITH NOHD OPTION
LIMITED TO 104 WITH STANDARD HEADING

"2" STOPS SUPPRESSION

MILESTONE REPORT FORMAT

5 0
1 2 4 ROWS DATA ELEMENT 7 9 COLUMNS DATA ELEMENT 12 14 17 19 22 24 27 29 32 34 37 39 42 44 47
49 52 54 57 59 62

VALUES OF COLUMN DATA ELEMENTS
(USE "BLNK" FOR BLANK VALUE)

5 1
1 2 4 7

Figure 8-7. Report Request Form

CDS DATA ELEMENT	ABBR	DATA TYPE	NUMBER OF DIGITS 10 & 30 CARD	NUMBER OF DIGITS 40 CARD	SPECIAL CHARS
AIR PROGRAM CODE	APCD	S	1	5	
AIR PROGRAM CODE DESCRIPTION	APDS	S	10	11	
AIR PROGRAM STATUS	APST	S	1	5	
AIR PROGRAM STATUS DESCRIPTION	APSD	S	10	11	
AIR QUALITY CONTROL REGION	AQCR	S	3	5	
BASIC POLLUTANT INFORMATION	BPLT	S	20 & 40	41	
CITY CODE	CYCD	S	4	5	
CITY NAME	CYNM	S	15	16	
COUNTY CODE	CNTY	S	4	5	
COUNTY NAME	CTNM	S	17	18	
DATE LAST UPDATED	UPDA	S	6	9	
DUN & BRADSTREET NUMBER	DBNO	S	12	13	
FACILITY CAPCITY	FCAP	S	7	8	
GOVERNMENTAL FACILITY CODE	FEDF	S	1	5	
LOADING DERIVATION CODE	LDRC	S	1	5	
NEDS CROSS-REFERENCE NUMBER	NEXS	S	4	5	
POLLUTANT AIR QUALITY CONTROL INDICATOR	PAQC	S	1	5	
POLLUTANT CODE - SOURCE	PLLT	S	2	5	
POLLUTANT COMPLIANCE STATUS	PCMS	S	1	5	
POLLUTANT LOADING	LOAD	S	5	6	
PRIORITY CODE	PRIO	S	1	5	
REGION CODE	REGN	S	2	5	
REGION-STATE-COUNTY	RGSC	S	8	9	
REGION-STATE-COUNTY-SOURCE	RSCS	S	13	14	
REGIONAL DATA ELEMENT 1	RDE1	S	1	5	
REGIONAL DATA ELEMENT 2	RDE2	S	1	5	
REGIONAL DATA ELEMENT 3	RDE3	S	1	5	
REGIONAL DATA ELEMENT 4	RDE4	S	5	6	
REGIONAL DATA ELEMENT 5	RDE5	S	5	6	
REGIONAL DATA ELEMENT 6	RDE6	S	10	11	
REGIONAL DATA ELEMENT 9	RDE9	S	7	8	
REGIONAL DATA ELEMENT 10	RD10	S	2	5	
REGIONAL DATA ELEMENT 11	RD11	S	2	5	
REGIONAL DATA ELEMENT 12	RD12	S	1	5	
SIC CODE	SICC	S	4	5	
SIC CODE DESCRIPTION	SICD	S	30	31	
SOURCE CLASSIFICATION CODE	CLAS	S	2	5	
SOURCE CLASSIFICATION GROUP	CLAG	S	1	5	
SOURCE COMPLIANCE STATUS	SCMS	S	1	5	
SOURCE COMPLIANCE STATUS DESCRIPTION	SCSD	S	20	21	
SOURCE COMPLIANCE STATUS - 8 QUARTERS	SCSO	S	8	9	
SOURCE COMPLIANCE STATUS - 1ST QUARTER THROUGH	SCS1-	S	1	5	
SOURCE COMPLIANCE STATUS - 8TH QUARTER	SCS8	S	1	5	
SOURCE NAME	SNME	S	20	21	
SOURCE NAME - SHORT	SNMS	S	10	11	
SOURCE NUMBER	SRCE	S	5	6	
STAFF NAME - SOURCE	STFS	S	15	16	
STAFF PERSONNEL CODE - SOURCE	PERS	S	3	5	
STATE ABBREVIATION	STAB	S	2	5	
STATE CODE	STTE	S	2	5	
STATE-COUNTY-SOURCE	STCS	S	11	--	
STATE REGISTRATION NUMBER	STRG	S	15	16	
STREET ADDRESS	STRT	S	20	21	
ZIP CODE	ZIPC	S	5	6	
CAPACITY CODE	CAPC	P	2	5	
COMPLIANCE STATUS CODE	CMST	P	1	5	
COMPLIANCE STATUS DESCRIPTION	CMDS	P	20	21	
EMISSION POINT NUMBER	PTNO	P	4	5	
MULTIPLE CROSS-REFERENCE	MULT	P	3	5	
OLD COMPLIANCE STATUS - 8 QUARTERS	OCSO	P	8	9	
OLD COMPLIANCE STATUS - 1ST QUARTER THROUGH	OCS1	P	1	5	
OLD COMPLIANCE STATUS - 8TH QUARTER	OCS8	P	1	5	
POLLUTANT CODE - POINT	PLUT	P	2	5	
PROCEDURAL COMPLIANCE	CMS2	P	1	5	
PROCESS DESCRIPTION	PRDS	P	20 & 25	26	
REGIONAL DATA ELEMENT 7	RDE7	P	1	5	
SCC 3-DIGIT CODE	SCC3	P	3	5	
SCC 6-DIGIT CODE	SCC6	P	6	7	
SCC 8-DIGIT CODE	SCC8	P	8	9	
SIP CODE	SIPC	P	1	5	
SIP CODE DESCRIPTION	SIDS	P	20	21	
STATE REGULATION	SREG	P	15	16	
ACTION DESCRIPTION	ADES	A	15	16	
ACTION NUMBER	ANUM	A	4	5	
ACTION STAFF CODE	PERA	A	3	5	
ACTION TYPE	ATPE	A	2	5	C
CIVIL PENALTY AMOUNT	PLTY	A	7	11	
DATE ACHIEVED	DTAC	A	6	9	
DATE ACHIEVED YEAR	DAYY	A	2	5	
DATE ACHIEVED YEAR/MONTH	DAYM	A	4	5	

CEM/CDS DATA ELEMENT	ABBR	DATA TYPE	NUMBER OF DIGITS 10 & 30 CARD	NUMBER OF DIGITS 40 CARD	CHARS
DATE SCHEDULED	DTSC	A	6	9	
DATE SCHEDULED YEAR	DSYY	A	2	5	
DATE SCHEDULED YEAR/MONTH	DSYM	A	4	5	
REGIONAL DATA ELEMENT 8	[illegible]	A	2	5	
REPORT QUARTER	RQTR	A	4	5	
RESULTS CODE	RTAC	A	2	5	
RESULTS CODE DESCRIPTION	RSTD	A	15	16	
STAFF NAME - ACTION	STFA	A	15	16	
STAFF TITLE	TITL	A	15	16	
CEM ENFORCEMENT AGENCY	AGCY	CP	1	5	
CEM ENFORCEMENT AGENCY DESCRIPTION	AGCD	CP	7	8	
CERTIFICATION DATE	CERF	CP	6	9	
CERTIFICATION MONTH	CERM	CP	2	5	
CERTIFICATION YEAR	CERY	CP	2	5	
CHANNEL NUMBER	CHAN	CP	3	5	
CHANNEL NUMBER DESCRIPTION	CHAD	CP	7	8	
CHANNEL NUMBER SHORT	CHAS	CP	1	5	
TIME PERIOD - ALL CHANNELS	TCHC	CA	3	4	
TIME PERIOD - CHANNEL 1	TCH1	CA	3	4	
TIME PERIOD - CHANNEL 2	TCH2	CA	3	4	
TIME PERIOD - CHANNEL 3	TCH3	CA	3	4	
TIME PERIOD - CHANNEL 4	TCH4	CA	3	4	
TIME PERIOD - CHANNEL 5	TCH5	CA	3	4	
TIME PERIOD - CHANNEL 6	TCH6	CA	3	4	
TIME PERIOD - CHANNEL 7	TCH7	CA	3	4	
TIME PERIOD - CHANNEL 8	TCH8	CA	3	4	
TIME PERIOD - CHANNEL 9	TCH9	CA	3	4	
INSTALLATION DATE	MIND	CP	6	6	
INSTALLATION MONTH	MINM	CP	2	5	
INSTALLATION YEAR	MINY	CP	2	5	
MONITOR MANUFACTURER	MANF	CP	20	21	
MONITOR MODEL NUMBER	MODL	CP	15	16	
MONITOR SERIAL NUMBER	SERL	CP	15	16	
NUMBER OF TESTS	PSRC	CP	2	5	
NUMBER OF PASSES	PSRP	CP	2	5	
NUMBER OF FAILS	PSRF	CP	2	5	
PERMISSIBLE EMISSION LIMIT	EMIS	CP	20	21	
PST DATE	PSTD	CP	4	6	
PST MONTH	PSTM	CP	2	5	
PST YEAR	PSTY	CP	2	5	
PST STATUS	PSTS	CP	4	5	
MONITOR REQUIREMENT CODE	REQT	CP	1	5	
MONITOR REQUIREMENT CODE DESCRIPTION	REQD	CP	7	8	
MONITOR AVAILABILITY PERCENT	[illegible]	CA	4	6	
MONITORED OPERATING SOURCE EXCEEDANCE PERCENT	POPT	CA	4	6	
OVERALL OPERATING SOURCE EXCEEDANCE PERCENT	PSEC	CA	4	6	
REASONS FOR EXCESS EMISSIONS	RSCT	CA	34	35	
START-UP/SHUTDOWN	STAR	CA	6	7	
START-UP/SHUTDOWN PERCENT	PSTA	CA	6	8	
CLEANING/SOOT BLOWING	SOOT	CA	6	7	
CLEANING/SOOT BLOWING PERCENT	PSOO	CA	6	8	
UNKNOWN EXCESS EMISSION	EXUN	CA	6	7	
UNKNOWN EXCESS EMISSION PERCENT	PEXU	CA	6	8	
CONTROL EQUIPMENT FAIL TOTAL	EQPT	CA	6	7	
CONTROL EQUIPMENT FAIL TOTAL PERCENT	PEQP	CA	6	8	
PROCESS PROBLEMS UNACCEPT TOTAL	PROC	CA	6	7	
PROCESS PROBLEMS UNACCEPT TOTAL PERCENT	PPRO	CA	6	8	
UNACCEPT PROCESS PROBLEMS	[illegible]	CA	6	7	
PERCENT UNACCEPT PROCESS PROBLEMS	[illegible]	CA	6	8	
FUEL PROBLEMS	FUEL	CA	6	7	
FUEL PROBLEMS PERCENT	PFUE	CA	6	8	
OTHER EXCESS EMISSIONS	[illegible]	CA	6	7	
PERCENT OTHER EXCESS EMISSIONS	[illegible]	CA	6	8	
MONITOR EQUIPMENT MALFUNCTION	[illegible]	CA	6	7	
MONITOR EQUIPMENT MALFUNCTION PERCENT	[illegible]	CA	6	8	
NON-MONITOR EQUIPMENT MALFUNCTION	[illegible]	CA	6	7	
NON-MONITOR EQUIPMENT MALFUNCTION PERCENT	[illegible]	CA	6	8	
CALIBRATION	CALI	CA	6	7	
CALIBRATION PERCENT	PCAL	CA	6	8	
UNKNOWN MONITOR DOWNTIME	[illegible]	CA	6	7	
UNKNOWN MONITOR DOWNTIME PERCENT	[illegible]	CA	6	8	
OTHER KNOWN MONITOR DOWNTIME	[illegible]	CA	6	7	
PERCENT OTHER KNOWN MONITOR DOWNTIME	[illegible]	CA	6	8	
MONITOR DOWNTIME INCIDENT	MDID	CA	4	5	
STATE-COUNTY-SOURCE-POINT-CHANNEL	SCSC	CA	18	--	
TIME PERIOD (PERIOD/MINUTES)	TIME	CA	1	5	
TIME CONVERSION FLAG	FLAG	CA	6	7	
TOTAL EXCESS EMISSION	EXCP	CA	6	7	
TOTAL MONITOR DOWNTIME	[illegible]	CA	6	7	
TOTAL SOURCE OPERATING TIME	OPER	CA	6	7	
BLANKS (5 SPACES)	BLK1	--	--	5	
BLANKS (15 SPACES)	BLK2	--	--	15	

In the Data Type column, "S" indicates Source Level Data "P" indicates Point Level Data, "A" indicates Action Level Data, "CP" indicates Channel Point Level Data, and "CA" indicates Channel Action Level Data. In the Special Characters column, "C" indicates a Confidential Data Element and "R" indicates a Repeating Data Element.

Figure 8-7. Report Request Form (Concluded)

and should include an English-language description of the selection criteria to identify the various printouts produced. Experience has shown that if a number of reports are prepared without adequate titles, it is difficult to remember the specific criteria for each report, and information may be misused.

Card 10 - Logic Selection Card

Card 10 provides the user with entry spaces for the card code number, data element, condition code, and value. Specific data records to be selected for inclusion in the output reports are obtained by using Card 10. Up to 40 cards can be submitted in a given retrieval. The data element (columns 4-7) field is used to specify a particular data element to be used in the logic selection of records. The condition codes are identified by the abbreviations shown in the box in the center of the request form. For example, the abbreviation for region is "REGN." The use of other abbreviations will cause an error, and the run will be aborted. Only the data elements indicated in the table can be used for logic selection purposes.

The condition code (column 9) is used to specify how the data element is selected. The entry is a single alphabetic character selected from the codes shown on the right side of the form. A brief explanation of the codes follows:

- M - Must Equal. A record will be excluded unless it equals the value specified in the value field. When testing for a value of blank, use the condition code M with no value entry in columns 11 through 30.
- A - Alternate. This code provides the capability of including records with different values for the same data elements. For example, three states might be selected and all given the condition code of A on three separate 10 cards. The output report would include the data for all three states. If an M had been used, no output would be received because clearly no record will match all three state codes. For example,

- U - Unequal. This code excludes records of the value specified in the value field. It would be used where specific values are not wanted on the report but all other data are desired.

- G - Equal or Greater Than. Use this code to include values greater than or equal to a specified value. Or this code may be used in combination with the L code (equal or less than) to provide a range of values, such as all the action types equal to or above 50, and equal to or below 70. More important, it can be used with the date scheduled or date achieved file to provide a chronological range. The date should be entered in month, day, year sequence. For example, the following entries would provide a range between January 1 and the end of 1980.

```
1 0   D T A C   G   0 1 0 1 8 0
1 2   4     7   9   11
      DATA
      ELEMENT   COND. VALUE (Left Justified)
1 0   D T A C   L   1 2 3 1 8 0
```

- L - Equal or Less Than. This code is the opposite of the G code and includes items equal or less than the value specified. If a comparison is made using a field that is either alphabetic or blank, the results will depend on the exact entries found in the data base. Letters will compare lower than numbers, and blanks will compare the lowest.

- P - Present-Any-Entry. This condition code will qualify an entry if the entire field is not blank or zero. That is, if any entry has been made, the record will qualify for inclusion on the output. No value entry is required in columns 11-30.

- B - Blank. This is the opposite of the P code and will qualify an entry if the specified field is completely blank or zero. No value entry is required. Use the condition code M to select only blanks or only zeros.

Value field (columns 11-30) is used to enter the actual value to be used for comparison with the data base. In some cases, this is the coded data actually carried in the data field. It is not used if the condition code does not call for a value. Entries should be made beginning in column 11, the left most portion of the field.

The number of digits for each data element is given on the Retrieval Request form immediately to the right of the retrieval abbreviation for that data element. If a data element has fewer than eight positions, the number of digits in columns 11 through 30 must correspond exactly to the number of digits on the data element. For example, if a selection is based on state code, only columns 11 and 12 may be used on the selection card.

If a data element, such as Source Number, is a five-digit field, users must code 00069 in columns 11 through 15; the retrieval logic will not work if only 69 is coded into columns 11 and 12.

If a data element has more than 20 digits, the Retrieval will base its selection logic only on the first 20 positions of Source Name. No value may be made on the selection card beyond column 30.

Note that entries in the value field must be exactly as shown in the data base. For example, if a state code is desired, the numeric code must be entered. If a regulation has been entered in several ways, such as REG 31 or REG-31, two alternate entries must be made to obtain both results.

Card 20 - Report Format Card

This card, which allows the region to select up to three output formats in a given run, must be included. The codes to be used are shown below. Entries should be made in columns 4-5, 7-8, and 10-11. Start with the left most field. The available report formats are as follows:

QL - QUICK LOOK
Q2 - DOUBLE SPACED QL
QD - TWO LINE QL
SD - SOURCE DATA REPORT
MS - MILESTONE REPORT
M1 - SINGLE SPACED MILESTONE
ST - STATISTICAL REPORT
DT - DETAIL REPORT
QT - QUESTIONNAIRE REPORT

The cataloged procedure "CEMSRTVL" is executed for all CEMSS Retrieval Reports desired CEMSS report.

The same password valid for CDS is also valid for the CEMSS. Passwords must be used for all SD reports and for obtaining confidential data on Quick Look and Milestone Reports. The back of the Retrieval Request form and Appendix A specify which data elements are confidential and which are not. To obtain the appropriate password, contact the national DBC at FTS 382-2881.

Card 30 - Report Sequence Card

The report sequence card permits the user to select the sequence of entries on the selected reports. For example, sources might be alphabetized within a state or grouped by pollutant code. In every case, reports will be sequenced by the following elements after (or in the absence of) the selected user sequence: region, state, county, source, point, action number, and channel number for all reports (a 30 card is not needed for a CEMSS Stat Report).

Entries are made using the four-digit abbreviation for individual data elements shown on the second side of the Retrieval Request form. For example, to sequence by source name, 'SNME' is entered. Care must be used in limiting the length of the sequence elements to 40 digits. For example, a sequence of source name (20 digits) and process description (25 digits) would result in a fatal error because the sequence length is 45 digits. However, the use of all six possible sequence entries with SIC Code (5 digits), Federal Facility Code (1 digit), Pollutant (2 digits), and SIP Code (1 digit), would total 11 digits, well within the 40-digit limit.

Note that in certain cases it is possible to request a meaningless report because of illogical sequencing. For example, a user sequence of data scheduled, especially on a Source Data Report, would results in the action records of several sources being separated and grouped away from their sources. However, the date schedule sorting within a source may be achieved by requesting a sequence of source number followed by date schedule. This request would keep all the actions with the correct source. A rule of thumb is to ensure that the primary, or first, sequencing element is on the source level and that it is unique to each source (such as source number or source name). This rule is critical for Source Data Reports and CEMS Detail Reports. Because Quick Look Reports are one-line reports for which no line must be related to any other line, they may be sequenced in any manner with no problem.

Page breaks and subtotals are available on the Quick Look Report by placing a number ranging from 1 to 6 in column 39 of Card 30. For example, if column 39 of the Card 30 is left blank, no page breaks are produced. A '1' in column 39 will produce a page break on the first data element of Card 30. A '2' in column 39 will produce a page break on the first two data elements of Card 30. A '3' in column 39 will produce a page break on the first three data elements of Card 30. Page breaks can be obtained on a maximum of six data elements.

REPORT SEQUENCE

30	STTE	AQCR					2	Number of Subtotaling Data Elements on Quick Look
1 2	4 7	9 12	14 17	19 22	24 27	29 32	39	

(SEQUENCE LIMITED TO 40 CHARACTERS)

The above card will provide page breaks with subtotals by state and by AQCR.

Card 40 - Quick Look Data Selection Card

Card 40 provides a means of requesting specific data elements for inclusion on the single line printed for each selected source, point, or action on the Quick Look Report output. Data elements should be entered from left to right in the same sequence as required on the report. The data element abbreviations used should be the same as those shown on the second page of Figure 8-7 (use the standard card 40 shown in 8.1.6 for a CEMSS Stat Report).

Note that state, county, source number, emission point number, action number, and channel number will automatically be placed at the leftmost side of the line by the system. However, if the user does not wish to have these elements on the Quick Look Report, these data elements can be suppressed by coding 'NOHD' in columns 4-7. The total Quick Look print line length is determined as follows:

- With the NOHD option, up to 132 print positions are available. The sum of the digits listed in the column for number of digits - Card 40 of the Report Request form must equal 132 or less for the data elements.
- With the regular heading of state, county, source, point, action number, and channel number, up to 104 print positions are available. The sum of the digits listed next to each selected data element in the number of digits - Card 40 column of the Report Request form must equal 104 or less for the data elements.

If the data elements on Card 40 require more space than is available on the 132-character print line, the Quick Look Report will not be produced. Data elements are printed left to right in the same sequence they are coded.

Card 50 - Milestone Data Selection Card

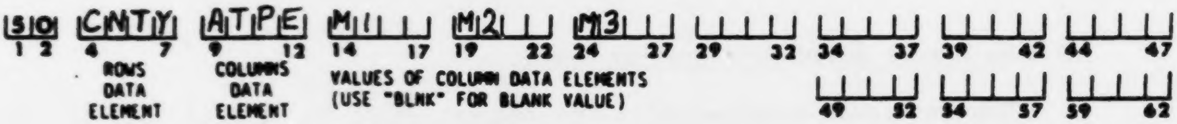
Card 50 provides a means of requesting the row and column data elements to be shown on the Milestone Report. Data element abbreviations should be the same as shown on the second page of Figure 8-7. The first data element determines the columns. Column data element values should be entered from left to right in the sequence desired on the report.

If users desire to have all blanks as one of the column values, they should enter 'BLNK' as the corresponding value on Card 50.

Note that Card 50 will be rejected if a Milestone Report was not requested on Card 20. It is the presence of Card 50 that causes the Milestone Report to be produced. If a Milestone Report was requested on Card 20 and no Card 50 is found, no Milestone will be produced.

To produce a Milestone Report showing the number of actions for action types M1, M2, and M3 for all the counties within a state, perform the following steps:

1. Choose an appropriate title on a Card 01
2. Use a Card 10 to select the appropriate state
3. Use Card 10 to select the desired action types
4. Code MS on Card 20
5. Code Card 50 as follows:


50
1 2
CNTY
4 7
ROWS DATA ELEMENT
ATPE
9 12
COLUMNS DATA ELEMENT
M1
14 17
M2
19 22
M3
24 27
29 32
34 37
39 42
44 47
49 52
54 57
59 62
VALUES OF COLUMN DATA ELEMENTS (USE "BLNK" FOR BLANK VALUE)

This request will produce four columns of numbers - one column for each of the selected action types. On the left-hand side of the page, totals are generated for all actions for a given county. One line is produced for each value of county code selected by the retrieval. At the end of the report, totals are produced for each action type and for the number of counties selected.

Up to 10 values may be coded on Card 50 - one value for each column to be totaled. If the data element values to be totaled are less than four positions, the values must be left justified. If the data element values to be totaled are greater than four positions, totals are produced only on the first four positions of the specified data element values.

Card 51 - Three Element Milestone Data Control Card

The 51 card selects the third controlling data element on the Milestone Report. A page break occurs for each value of the controlling data element. Only one data element may be selected on the 51 card.

8.4 Job Control Language for Using Retrieval Program

The CDS Retrieval Package operates on a Remote Job Entry basis at the EPA's National Computer Center. Input must be submitted from a high-speed terminal. Frequent and complicated requests should be stored on a WYLBUR data set. To submit a job request, add the JCL cards shown in Figure 8-8 or 8-9 to Cards 01, 10, 20, 30, 40, 50, and 51 on the Retrieval Request.

Use the JCL in Figure 8-8 for producing all CEMSS Reports. Figure 8-9 shows an example of this JCL for producing a CEMSS Detail Report and Figure 8-10 shows an example for producing a CEMSS Statistical Report.

8.5 Retrieval Edits Performed by System

The Retrieval Program edits the request Cards 01, 10, 20, 30, 40, 50, and 51 to determine if they are convertible into logic that the system can process. Errors on the request cards will appear as error messages on the Edit Report. These error messages are classified as warning or fatal.

Table 8-1 lists the type of edits performed, the correct possibilities, and the action taken by the system if an error is detected.

Table 8-2 contains a list of all possible error messages and causes of their appearance on the Retrieval Edit Report.

FIGURE 8-8

RETRIEVAL JOB CONTROL LANGUAGE

```
 1.  //IIICM JOB (AAAACDSYP,MIII),'USER NAME',TIME=(0,7)
 2.  /*ROUTE PRINT RMTNN
 3.  //*      ***************************************************
 4.  //*      USE THIS JCL ONLY FOR QL's, MS's AND SD's
 5.  //*      CHANGE             III TO YOUR USERID
 6.  //*                         AAAA TO YOUR ACCOUNT
 7.  //*                         MIII TO YOUR BOX
 8.  //*                         USER NAME TO YOUR NAME IN   LINE 1
 9.  //*                         NN TO YOUR REMOTE NUMBER IN LINE 2
                                 or replace RMTNN with your N
                                 number designation for the new
                                 printers where available
10.  //*      ***************************************************
11.  //CMTRTVL EXEC CEMSRTVL
12.  //SYS005 DD *
13.  01 00    RETRIEVAL REQUEST CARDS
14.  10
15.  20
16.  30
17.  40
18.  50
19.  51
```

FIGURE 8-9

CEMSS DETAIL REPORT JOB CONTROL LANGUAGE

```
 1.  //IIICM JOB (AAAACDSYP,MIII),'USER NAME',TIME=2
 2.  /*ROUTE PRINT RMTNN
 3.  //*      ***************************************************
 4.  //*      USE THIS JCL ONLY FOR CM DETAIL REPORT
 5.  //*      CHANGE             III TO YOUR USERID
 6.  //*                         AAAA TO YOUR ACCOUNT
 7.  //*                         MIII TO YOUR BOX
 8.  //*                         USER NAME TO YOUR NAME IN   LINE 1
 9.  //*                         NN TO YOUR REMOTE NUMBER IN LINE 2
                                 or replace RMTNN with your N
                                 number designation for the new
                                 printers where available
10.  //*      ***************************************************
11.  //CMTRTVL EXEC CEMSRTVL
12.  //SYS005 DD *
13.  01 00    RETRIEVAL REQUEST CARDS
14.  10
15.  20 DT
16.  30
```

FIGURE 8-10

CEMSS STAT REPORT JOB CONTROL LANGUAGE

```
 1.  //IIICM JOB (AAAACDSYP,MIII),'USER NAME',TIME=(0,7)
 2.  /*ROUTE PRINT RMTNN
 3.  //*     **************************************************
 4.  //*     USE THIS JCL ONLY FOR QL's, MS's AND SD's
 5.  //*     CHANGE          III TO YOUR USERID
 6.  //*                     AAAA TO YOUR ACCOUNT
 7.  //*                     MIII TO YOUR BOX
 8.  //*                     USER NAME TO YOUR NAME IN   LINE 1
 9.  //*                     NN TO YOUR REMOTE NUMBER IN LINE 2
                             or replace RMTNN with your N
                             number designation for the new
                             printers where available
10.  //*     **************************************************
11.  //CEMSRTVL REPORT EXEC CEMSRTVL
12.  //SYS005 DD *
13.  01 00   RETRIEVAL REQUEST CARDS
14.  10
15.  20 ST  PASSWORD
16.  40 TIME OPER ROCT BPMD EXCP MONP MOAV OOSC MOSC
```

FIGURE 8-10.1

CEMSS QUESTIONNAIRE REPORT JOB CONTROL LANGUAGE

```
 1.  //IIICM JOB (AAAACDSYP,MIII),'USER NAME',TIME=2
 2.  /*ROUTE PRINT RMTNN
 3.  //*     **************************************************
 4.  //*     USE THIS JCL ONLY FOR CM QUESTIONNAIRE REPORT
 5.  //*     CHANGE          III TO YOUR USERID
 6.  //*                     AAAA TO YOUR ACCOUNT
 7.  //*                     MIII TO YOUR BOX
 8.  //*                     USER NAME TO YOUR NAME IN   LINE 1
 9.  //*                     NN TO YOUR REMOTE NUMBER IN LINE 2
                             or replace RMTNN with your N
                             number designation for the new
                             printers where available
10.  //*     **************************************************
11.  //CEMSRTVL EXEC CEMSRTVL
12.  //SYS005 DD *
13.  01 00   RETRIEVAL REQUEST CARDS
14.  10
15.  20 QT
16.  30
```

TABLE 8-1

RETRIEVAL PACKAGE EDITS

Card Type	Item Checked	Correct Possibilities	Action in Error
01	Number of 01 Cards	One or None	Only first Card 01 accepted
10	Data Element	Listed on input form	Fatal - processing stops after Edit
	Condition	M, A, U, G, L, P, B	Fatal - processing stops after Edit
	Value	1. Anything	1. Ignored if not blank for condition
		2. Numeric for numeric items, i.e., REGN, SSTE, CNTY, SRCE, PTNO, ATPE, DTSC, DTAC, STAC	2. Fatal - processing stops after Edit
		3. Number of digits less than or equal to number of digits on input form	3. Fatal if the wrong length is used
	Number of 10 Cards	0 to 40	Fatal - Processing stops after Edit
20	Report Format	1. QL, Q2, QD, MS, M1, SD, DT ST, QT. Up to three reports are available from one retrieval	1. Processing will continue if at at least one valid format
	Number of 20 Cards	one	Fatal - Processing stops after Edit
30	Report sequence	Valid abbreviations from the Report Request form	Fatal - Processing stops after Edit
	Data element sequence length	Total of 40	Fatal - Processing stops after Edit

Table 8-1. Retrieval Package Edits

TABLE 8-1

RETRIEVAL PACKAGE EDITS (Continued)

Card Type	Item Checked	Correct Possibilities	Action in Error
01	Number of 01 Cards	One or None	Only first Card 01 accepted
40	Quick Look Data element	Valid abbreviations from the Report Request form	QL format request ignored
	Length	Total length (including one blank between each item) is 132 with NOHD, 104 without NOHD	QL format requested ignored
	Number of 40 Cards	1. One if QL format requested 2. Zero if no QL format requested	1. QL format requested ignored 2. QL format assumed (if only one 40 Card)
50	Milestone data element	List on input form (BLK1, BLK2) excluded	Fatal - processing stops after Edit at least one valid format
	Column values	Must be present	Fatal - processing stops after Edit
	Relation to other cards	1. MS must be requested on 20 card	Fatal - processing stops after Edit
	Number of 50 Cards	One or none	MS format request ignored
51	Milestone Control data element	List on input from (BLK1, BLK2) excluded	Fatal - processing stops after Edit
All	General card type	01, 10, 20, 30, 40, 50, 51	Fatal - processing stops after Edit

Table 8-1. Retrieval Package Edits (Concluded)

8.6 WYLBUR Interactive Retrieval Technique

In some cases, the amount of CEMS retrievals may not justify the creation of an interactive retrieval program for regional or state minicomputers. For those users, there is available a WYLBUR Interactive retrieval technique.

The interactive features are as follows:

- Screen prompting for all retrieval cards
- Edit capabilities
  - Internal edits
  - After each card is entered
  - After all cards are entered
- Restart capability if dropped from NCC
- Capability to add to or change an already created WYLBUR file
- Save data on WYLBUR file
- Automatic job submission.

An example of the retrieval prompting is shown in Figure 8-11. To use the WYLBUR Interactive to create a Retrieval Program, perform the following:

- Sign on to the appropriate user ID and account
- Type CEMSRTVL
- The screen prompting begins.

```
- CEMRTVL
 THIS EXEC WILL PROVIDE A CEM RETRIEVAL
 ENTER  EXEC  IN RESPONSE TO 'EXEC BREAK' MESSAGE
IS RETRIEVAL STATE (S), REGIONAL (R) OR NATIONAL (N) ->R
ENTER REGION CODE ->07
      CARD 01 - REPORT IDENTIFICATION

REPORT LEVEL VALID ONLY FOR SOURCE DATA REPORT..
ENTER THE REPORT LEVEL (S FOR SOURCE LEVEL ONLY, P FOR POINT
AND SOURCE,C FOR CRITERIA MATCH AND  A FOR ALL LEVELS)

ENTER 1 DIGIT REPORT LEVEL OR RETURN ->A
ENTER REPORT TITLE (0-72 CHARACTERS)....
     TITLE  ->CEMS SUBSET QUICK LOOK REPORT
   1.      01 00 A CEMS SUBSET QUICK LOOK REPORT
IS THIS LINE CORRECT (YES OR NO) ->YES
     CARD 10 - SELECTION CRITERIA

ENTER DATA ELEMENT ABBREVIATION OR RETURN ->STAB
ENTER SELECTION CONDITION - A (OR), U (UNEQUAL), M (EQUAL),
G (GREATER THAN), L (LESS THAN), P (PRESENT), B (BLANK OR ZERO)....

ENTER 1 CHARACTER CONDITION ->M
ENTER 1-20 DIGIT SELECTION VALUE ->IA
   3.      10 STAB M IA
IS THIS LINE CORRECT (YES OR NO) ->YES
DO YOU WISH TO ENTER ANOTHER SELECTION CRITERIA (YES OR NO) ->NO

        CARD 20 REPORT FORMAT(S)

ENTER THE REQUIRED REPORT......
QUICKLOOK REPORT (QL OR Q2)
2 LINE QUICKLOOK (QD)
MILESTONE REPORT (MS)
SINGLE SPACED MILESTONE (M1)
CEM DETAIL REPORT (DT)
SOURCE DATA (SD)
STAT REPORT (ST)
QUESTIONAIRE REPORT (QT)
ENTER REPORT TYPE ->QL
ENTER ANOTHER REPORT TYPE OR RETURN ->
   4.      20 QL        SUBSET
      ----+----1----+----2----+----3----+----4----+----5----+----6----+----
DO YOU WISH TO MODIFY THIS LINE? ->NO
```

Figure 8-11. WYLBUR Interactive Retrieval

```
     CARD 30 - REPORT SEQUENCE

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION
OF EACH SORT FIELD, MAJOR TO MINOR, OR RETURN ->STAB
ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION
OF EACH SORT FIELD, MAJOR TO MINOR, OR RETURN ->SNME
ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION
OF EACH SORT FIELD, MAJOR TO MINOR, OR RETURN ->
ENTER SORT PAGE BREAKS (1-6) OR RETURN ->
    5.      30 STAB SNME
            ----+----1----+----2----+----3----+----4----+----5----+----6----+-
DO YOU WISH TO MODIFY THIS LINE? ->NO
     CARD 40 - QUICK LOOK REPORT FORMAT

ENTER  NOHD  TO SUPRESS THE STANDARD HEADING REGION,
STATE, COUNTY, SOURCE NUMBER, POINT NUMBER, CHANNEL
NUMBER AND ACTION NUMBER OR RETURN ->NOHD

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
OF EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->STAB

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
OF EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->SNME

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
OF EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->APDS

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
OF EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->MANF

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
OF EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->MIND

ENTER THE 4 CHARACTER DATA ELEMENT ABBREVIATION (EXCLUDING NOHD)
OF EACH ABBREVIATION OF EACH QUICK LOOK FIELD, OR RETURN ->
ENTER '2' TO CANCEL STANDARD....
SUPPRESSION OF SOURCE INFO OR RETURN ->
    6.      40 NOHD STAB SNME APDS MANF MIND
            ----+----1----+----2----+----3----+----4----+----5----+----6----+-
DO YOU WISH TO MODIFY THIS LINE? ->
 ENTER YES OR NO.....
DO YOU WISH TO MODIFY THIS LINE? ->NO
DO YOU WISH TO LIST THE DATA JUST ENTERED (YES OR NO) ->YES
    1.      01 00 A CEMS SUBSET QUICK LOOK REPORT
    2.      10 REGN M 07
    3.      10 STAB M IA
    4.      20 QL         SUBSET
    5.      30 STAB SNME
    6.      40 NOHD STAB SNME APDS MANF MIND
ENTER 4 DIGIT ACCOUNT NUMBER (EX. A026)->A026
ENTER ADP IDENTIFIER (EX. CDSYP)->CDSYP
ENTER 4 DIGIT BIN/BOX (EX. M5E0)->MCDS
ENTER PRIORITY (DEFAULT IS 4) ->2
ENTER EST. TIME (FORMAT MIN,SEC), DEFAULT 30 SECS ->
ENTER YOUR REMOTE NUMBER (NNN), DEFAULT 20 ->37
DO YOU WISH TO SUBMIT A LIVE RETRIEVAL (YES OR NO) ->YES
JOB 3784 CDSCM SUBMITTED
DO YOU WISH TO SAVE THIS DATA? (YES OR NO) ->YES
 ENTER DATASET NAME TO SAVE REPORT ON  ->RTVQL
RTVQL SAVED AND CATLG'D ON USR013
?
```

Figure 8-11. WYLBUR Interactive Retrieval (Concluded)

TABLE 8-2

RETRIEVAL PACKAGE ERROR MESSAGES

Error Message	Cause
FATAL - INVALID RETRIEVAL CARD	Card Type not 01, 10, 20, 30, 40, 50, or 51.
WARNING - DUPLICATE TITLE (01) CARD	More than one 01 Card entered; only the first one is accepted.
FATAL - OVER 40 SELECTION CRITERIA	Limit of forty Type 10 Cards exceeded.
FATAL - INVALID DATA ELEMENT	Four-digit data element abbreviation does not correspond to any listed on input form. This error can occur on Card Types 10, 30, 40, or 50.
FATAL - INVALID CONDITION	The condition code entered on Card Type 10 was not M, A, U, G, L, P, B.
WARNING - VALUE NOT USED FOR COND P OR B	An entry was made in the value portion of Card Type 10 with a condition of P or B. These conditions do not utilize any value.
FATAL - THIS VALUE MUST BE NUMERIC	An alphabet letter was entered in the value portion of Card Type 10, which requires a numeric value, e.g., the value for DTSC must be a date consisting of six digits (0-9).
WARNING - VALUE TOO LONG (TRUNCATED)	The number of digits entered in the value portion of Card Type 10 was larger than the number of digits specified for that data element on the list on the input form.
WARNING - INVALID REPORT FORMAT WILL CONTINUE IF ANY VALID FORMATS	A code other than QL, Q2, SD, or MS was entered on Card Type 20.
WARNING - QL FORMAT ASSUMED	A Card Type 40 was entered, but QL was not requested on Card Type 20. Ql will be assumed as entered.

TABLE 8-2

RETRIEVAL PACKAGE ERROR MESSAGES (Continued)

Error Message	Cause
FATAL - REPORT FORMAT (20) CARD REQUIRED	No Card Type 20 was entered. This card type is required.
WARNING - QL (40) MISSING, QL DELETED	No Card Type 40 was entered, although QL was entered on Card Type 20. QL report format is ignored.
WARNING - QL TOO BIG, QL DELETED	The total length of the QL line is greater than 104 digits with the default header information, or it is greater than 132 digits with NOHD.
FATAL - DUPLICATE FORMAT (20) CARD	More than one Card Type 20 was entered.
FATAL - DUPLICATE SEQUENCE (30) CARD	More than one Card type 30 was entered.
FATAL - SEQUENCE KEY TOO LONG	The sum of the number of digits of the data elements requested for the user sequence (Card Type 30) was greater than 40.
FATAL - INVALID MS DATA ELEMENT COMBO	Only source-level data elements may be requested on a Milestone together with repeating pollutant data on a Card 50.
FATAL - REPEAT AND POINT OR ACTION ON QL	The Card 40 may specify only source-level data together with repeating pollutant data on the Quick Look.
PASSWORD NOT ACCEPTED - NO CONFIDENTIAL DATA WILL BE PRINTED	Either no password was used or an incorrect password was used. No confidential data will be selected, sorted, or printed on any output report.
PASSWORD HAS BEEN ACCEPTED - CONFIDENTIAL REPORT - FOR EPA INTERNAL USE ONLY	When a correct password is used, each output report page is labeled as confidential.
FATAL - *NOHD* USED ONLY FOR QL REPORT	NOHD was used as other than the first data element on the QL Card Type 40.

TABLE 8-2

RETRIEVAL PACKAGE ERROR MESSAGES (Continued)

Error Message	Cause
FATAL - *BPLT* CAN NOT BE IN SORT KEY	BPLT (55 Char. Length) is larger than the maximum 40 characters allowed for the sort key.
WARNING - BAD LEVEL, SD FORMAT DELETED	An invalid SD report level code was entered the SD report will not be produced.
WARNING - SD TYPE DELETED, LEVEL MISSING	No level was specified for the SD report, the report will not be produced.
WARNING - LEVEL FOR SD FORMAT ONLY	The SD level code was entered with no SD report requested, report requested will be produced.
WARNING - DUPLICATE QL (40), QL DELETED	Multiple QL 40 cards were entered, no QL report will be produced.
FATAL - ROWS DATA ELEMENT INVALID	An invalid data element (not in CDS or CEMS data element table) was requested for the MS rows data element. The MS report will not be produced.
FATAL - COLUMNS DATA ELEMENT INVALID	An invalid data element (not in CDS or CEMS data element table) was requested for the MS rows data element. The MS report will not be produced.
FATAL - COLUMNS DATA ELEMENT INVALID	An invalid data element (not in CDS or CEMS data element table) was requested for the MS columns data element. The MS report will not be produced.
FATAL - NO X VALUES SUPPLIED	No data element was requested for the rows data element on the MS 50 card. The MS report will not be produced.
FATAL - MS NOT REQUESTED 50 INVALID	A MS Card Type was entered with no MS report requested. The MS report will not be produced.
FATAL - MS NOT REQUESTED 51 INVALID	A MS Card Type 51 was entered with no MS report requested. The MS report will not be produced.

TABLE 8-2

RETRIEVAL PACKAGE ERROR MESSAGES (Continued)

Error Message	Cause
FATAL - CONTROL DATA ELEMENT INVALID	An invalid data element (not in CDS or CEMS data element table) was requested for the MS control data element. The MS report will not be produced.
FATAL - STANDARD MILESTONE NOT AVAILABLE	MS report was requested with no Card Type 50. This CDS standard MS report is not available in CEMS. The MS report will not be produced.
MASTER FILE OUT OF SEQUENCE-PREVIOUS KEY IS	The master file records are not in the proper order. The last record in sequence is displayed. The reports will not be produced.
WARNING - DUPLICATE MS (50), MS DELETED	Multiple card type 51's were requested for a MS report. The MS report will not be produced.
WARNING - DUPLICATE MS (51), MS DELETED	Multiple card type 51's were requested for a MS report. The MS report will not be produced.
WARNING - CONFIDENTIAL, MS DELETED	A confidential data element was requested on the MS report with no password entered. The MS report will not be produced.
WARNING - CONFIDENTIAL, WILL BE IGNORED	A confidential data element was requested on the Card Type 30 (sequence) or the card type 40 (QL). The data element will not be used on this report.
WARNING - INVALID TIME CHANNEL PERIOD	An invalid time period code has been requested in the card type 10 selection. The selection will not be used for this report.
FATAL - CONDITION MUST BE M FOR MUST EQUAL	A channel time period was used in the card type 10 selection with a condition code other than "M" for "Must Equal". The report will not be produced.

TABLE 8-2

RETRIEVAL PACKAGE ERROR MESSAGES (Continued)

Error Message	Cause
WARNING - DUPLICATE TIME CHANNEL CARD	Multiple card type 10 selection cards were requested for the same channel. Only the last selection entered will be used.
FATAL - TIME CHANNEL VALID ON CARD 10 ONLY	A selection channel time period code was used on a report request card other than a card type 10. The report will not be produced.
WARNING - CHANNEL TIME OF P NOT COVERED	The time period code is "P". The EER data for time period "P" has not been converted. The EER data is printed as entered.

APPENDIX A

CEMS DATA ELEMENT DICTIONARY

A.1 Point Level Data Elements
A.2 Action Level Data Elements
A.3 Other Data Elements

APPENDIX A

CEMS DATA ELEMENT DICTIONARY

Page	Data Element	Abbr.	Data Type
A.1	Point Level		
A.1-1	CEM Enforcement Agency	AGCY	P (Point
A.1-2	CEM Enforcement Agency Description	AGCD	P Level)
A.1-3	Certification Date	CERF	P
A.1-4	Channel Number	CHAN	P
A.1-6	Channel Number Description	CHAD	P
A.1-7	Emission Point Number	PTNO	P
A.1-8	Installation Date	MIND	P
A.1-9	Monitor Manufacturer	MANF	P
A.1-10	Monitor Model Number	MODL	P
A.1-11	Monitor Requirement Code	REQT	P
A.1-12	Monitor Requirement Code Description	REQD	P
A.1-13	Monitor Serial Number	SERL	P
A.1-14	Number of Tests	PSRC	P
A.1-15	Number of Fail	PSRF	P
A.1-16	Number of Pass	PSRP	P
A.1-17	Permissible Emission Limit	EMIS	P
A.1-18	PST Date	PSTD	P
A.1-19	PST Status	PSTS	P
A.2	Action Level		
A.2-1	Action Type	ATPE	A (Action
A.2-2	Date Achieved	DTAC	A Level)
A.2-3	Date Scheduled	DTSC	A
A.2-4	Action Staff Code	PERA	A
A.2-5	Results Code	STAC	A
A.2-6	Regional Data Element 8	RDE8	A
A.2-7	Action Number	ANUM	A
A.2-8	Report Quarter	RQTR	A
A.2-9	Monitor Unavailability	PMON	A
A.2-10	Monitored Operation without Exceedances	POPT	A
A.2-11	Reported Operating Time with Exceedances	PEXC	A
A.2-12	Reasons for Excess Emissions	ROCT	A
A.2-13	Cleaning/Soot Blowing	SOOT	A
A.2-14	Cleaning/Soot Blowing (Percent)	PSOO	A
A.2-15	Control Equipment Malfunction Total	EQPT	A
A.2-16	Control Equipment Malfunction Total (Percent)	PEQP	A
A.2-17	Control Equipment Malfunction Unacceptable	EQPU	A
A.2-18	Control Equipment Malfunction Unacceptable (Percent)	PEQU	A
A.2-19	Process Problems Total	PROC	A
A.2-12	Process Problems Total (Percent)	PPRO	A
A.2-21	Process Problems Unacceptable	PRUN	A
A.2-22	Process Problems Unacceptable (Percent)	PPRU	A
A.2-23	Startup/Shutdown	STAR	A
A.2-24	Startup/Shutdown (Percent)	PSTA	A
A.2-25	Unknown Excess Emissions	EXUN	A
A.2-26	Unknown Excess Emissions (Percent)	PEXU	A

APPENDIX A

CEMS DATA ELEMENT DICTIONARY

Page	Data Element	Abbr.	Data Type
A.2	Action Level (Continued)		
A.2-27	Fuel Problems	FUEL	A
A.2-28	Fuel Problems (Percent)	PFUE	A
A.2-29	Other Known Excess Emissions	EEOT	A
A.2-30	Other Known Excess Emissions (Percent)	PEEO	A
A.2-31	Number of Incidents of Excess Emissions	EEIN	A
A.2-32	Reasons for Monitor Downtime	BPMD	A
A.2-33	Calibrations (Quality Assurance)	CALI	A
A.2-34	Calibrations (Percent)	PCAL	A
A.2-35	Monitor Equipment Malfunctions	MOEQ	A
A.2-36	Monitor Equipment Malfunctions (Percent)	PMOE	A
A.2-37	Non-monitor Equipment Malfunctions	NMEQ	A
A.2-38	Non-monitor Equipment Malfunctions (Percent)	PNME	A
A.2-39	Other Known Monitor Downtime	MOOT	A
A.2-40	Other Known Monitor Downtime (Percent)	PMOO	A
A.2-41	Unknown Monitor Downtime	MOUN	A
A.2-42	Unknown Monitor Downtime (Percent)	PMOU	A
A.2-43	Number of Incidents of Monitor Downtime	MOIN	A
A.2-44	Time Period Code	TIME	A
A.2-45	Total Excess Emission	EXCP	A
A.2-46	Total Monitor Downtime	MONP	A
A.2-47	Total Source Operating Time	OPER	A
A.3	Other Data Elements		
A.3-1	Region Code	REGN	S,P,A
A.3-3	State Code	STTE	S,P,A
A.3-5	County Code	CNTY	S,P,A
A.3-6	Source Number	SRCE	S,P,A
A.3-7	Card Code	--	S,P,A
A.3-8	Comment Line Number	--	S,P,A
A.3-9	Comments	--	S,P,A
A.3-10	Update Code	--	S,P,A

(S=Source Level)
(P=Point Level)
(A=Action Level)
(S,P,A,=All Levels)

A.1

POINT LEVEL DATA ELEMENTS

Definition: CEM ENFORCEMENT AGENCY is the state or Federal agency with enforcement jurisdiction for the continuous emissions monitoring installation.

Retrieval Abbreviation	AGCY	Valid Values: 1-4, blank	
Card Type	52		
Card Columns	27		
Data Element Length	1		
Data Type	ALPHANUMERIC		
Justified	NO	Masterfile Record Type	34
Required on New Entry	NO	Masterfile Position	96
Nationally Controlled	N/A	Masterfile Length	1

Edit Error Messages:

* AGENCY CODE MUST BE 1-4

*** = Fatal Error   * = Warning Error

Coding Considerations:

Code one of the following values:

blank	UNKNOWN
1	EPA-HQ
2	EPA-RGN
3	STATE
4	LOCAL

CEM ENFORCEMENT AGENCY DESCRIPTION

Definition: CEM ENFORCEMENT AGENCY DESCRIPTION is the English language translation of the enforcement agency code.

Retrieval Abbreviation	AGCD	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	7		
Data Type	ALPHABETIC		
Justified	LEFT	Masterfile Record Type	N/A
Required on New Entry	N/A	Masterfile Position	N/A
Nationally Controlled	N/A	Masterfile Length	N/A

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

1 = EPA-HQ
2 = EPA-RGN
3 = STATE
4 = LOCAL
blank = UNKNOWN

CEM POINT DATA IDENTIFIER

Definition: CEMS POINT DATA IDENTIFIER is a system generated identifier to indicate that there is CEMS data present at a CDS point.

Retrieval Abbreviation	CEMP	Valid Values: System-generated for CDS points with CEMS data (cards 51, 52, 70, 71, 72) associated with them. CEMS points will be indicated by a 'C' in the CEMS POINT DATA IDENTIFIER.	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	1		
Data Type	ALPHANUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	87
Nationally Controlled	N/A	Masterfile Length	1

Edit Error Messages:

*** = Fatal Error

*** = Fatal Error　　　　* = Warning Error

Coding Considerations:

CERTIFICATION DATE

Definition: CERTIFICATION DATE is the date the monitor receives certification.

Retrieval Abbreviation	CERF, CERM, CERY
Card Type	52
Card Columns	61-66
Data Element Length	6
Data Type	NUMERIC

Valid Values:

Must be numeric and a valid

date "MMDDYY" DD = DAY

MM = MONTH YY = YEAR

Justified	NO	Masterfile Record Type	34
Required on New Entry	NO	Masterfile Position	250-255
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

* INVALID DATE VALUE

*** = Fatal Error   * = Warning Error

Coding Considerations:

CERF - refers to the entire six-character field
CERM - refers to the month field
CERY - refers to the year field

CHANNEL NUMBER

Definition: CHANNEL NUMBER is a three digit numeric code used to uniquely identify a CEM monitor.

Retrieval Abbreviation	CHAN	Valid Values:	
Card Type	51, 52, 60, 70, 71, 72, 80		
Card Columns	24-26		
Data Element Length	3		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	34, 35, 46, 47
Required on New Entry	YES	Masterfile Position	18-20
Nationally Controlled	YES	Masterfile Length	3

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

For data referred to specific monitors, the following rules apply:

Column 24 identifies the parameter being monitored and is numeric.

1 = Opacity Monitor
2 = SO_2 Monitor
3 = NO_x Monitor
4 - Diluent Monitor
5 = Hydrocarbon
6 = Tot reduced SO_2
7 = Hydrogen disulf
8 = Carbon monoxide
9 = Coal Sampling and Analysis

Column 25 is numeric and identifies the type of data being entered.

1 = Monitor data
9 = Excess Emission Reports (EER) data

Column 26 is numeric (1-9) and is dependant on the value of column 25:

EXAMPLE: See Section 5.3.5 for examples of proper point/channel assignment.

a. If column 25 = 1, column 26 represents a particular monitor in a multiple monitor installation and is numeric. For example, if a unit has two opacity monitors on the same emission point, the first would be coded "111" and the second coded as "112".

b. If column 25 = 9, column 26 indicates the type of emission data being entered/present in CEMS, is numeric, and, at present, is limited to the following codes:

5 = Percent reduction (% RDX) for SO_2 and NO_x
9 = Excess emission reports (EER) for all pollutants.

CHANNEL NUMBER DESCRIPTION

Definition: CHANNEL NUMBER DESCRIPTION is the English language translation of the first digit of the channel number.

Retrieval Abbreviation	CHAD	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	15		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	N/A
Required on New Entry	N/A	Masterfile Position	N/A
Nationally Controlled	N/A	Masterfile Length	N/A

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

Column 24

1 = Opacity Monitor
2 = SO_2 Monitor
3 = NO_x Monitor
4 - Diluent Monitor
5 = Hydrocarbon
6 = Tot reduced SO_2
7 = Hydrogen disulf
8 = Carbon monoxide
9 = Coal Sampling

Column 25

1 = Monitor data
9 = EER data

Column 26

If column 25 = 1
Column 26 = a particular monitor in a multiple monitor installation.
1 = first monitor
2 = second monitor etc.

If column 25 = 9, column 26 = type of emissions data entered.
5 = Percent Reduction (%RDX) for So_2 and NO_x.

9 = Excess Emission Reports (EER) for all pollutants.

EMISSION POINT NUMBER

Definition: EMISSION POINT NUMBER is a four digit numeric emission point identifier. If one physical emission point produces several pollutants, each pollutant is assigned to separate emission point number. Emission point 0000 refers to the entire source.

Retrieval Abbreviation	PTNO	Valid Values: 0000, 0500 through 0599	
Card Type	10, 51, 52, 60, 70, 71, 72, 80		
Card Columns	14-17		
Data Element Length	4		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	20-47
Required on New Entry	YES	Masterfile Position	14-17
Nationally Controlled	NO	Masterfile Length	4

Edit Error Messages:

*** EMISSION POINT MUST BE ZEROS
*** POINT NO. MUST BE GREATER THAN ZERO
*** EMISSION POINT MUST BE NUMERIC

*** = Fatal Error   * = Warning Error

Coding Considerations:

Point number must be zero for card type 10. It must be greater than zero for cards 51, 52, 60, 70, 71, 72, and 80.

Enter the CDS emission point. If an emission point does not exist in CDS for the EER being entered, an emission point must be entered through CDS. An emission point cannot be added to CEM, see pages 5-14 through 5-16 for an explanation of how the point number should be matched to the channel number.

Definition: INSTALLATION DATE is the date on which the monitor was installed and is in year/month format.

Retrieval Abbreviation	MIND, MINM, MINY	Valid Values: Numeric and a valid date "YYMM." MM = MONTH YY = YEAR	
Card Type	52		
Card Columns	49-52		
Data Element Length	4		
Data Type	NUMERIC		
Justified	NO	Masterfile Record Type	34
Required on New Entry	YES	Masterfile Position	102-105
Nationally Controlled	NO	Masterfile Length	4

Edit Error Messages:

* INVALID DATE VALUE

*** = Fatal Error   * = Warning Error

Coding Considerations:

MIND - refers to the entire four-character field
MINM - refers to the month field
MINY - refers to the year field

Definition: MONITOR MANUFACTURER identifies the manufacturer of the primary component of the monitoring unit.

Retrieval Abbreviation	MANF	Valid Values: All alphanumeric characters.	
Card Type	51		
Card Columns	27-46		
Data Element Length	20		
Data Type	ALPHANUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	186-205
Nationally Controlled	N/A	Masterfile Length	20

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

When one or more monitors is attached to a physical emission point, separate channel numbers should be assigned for each pollutant monitored.

MONITOR MODEL NUMBER

Definition: MONITOR MODEL NUMBER identifies the type of monitor in use.

Retrieval Abbreviation	MODL
Card Type	51
Card Columns	47-61
Data Element Length	15
Data Type	ALPHANUMERIC

Valid Values:

All alphanumeric characters

Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	206-220
Nationally Controlled	N/A	Masterfile Length	15

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

See Monitor Manufacturer for applicable comments.

MONITOR REQUIREMENT CODE

Definition: MONITOR REQUIREMENT CODE states the regulation type requiring the continuous monitor.

Retrieval Abbreviation	REQT	Valid Values: 0, 3, 5, 6, 9, BLANK	
Card Type	52		
Card Columns	28		
Data Element Length	1		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	34
Required on New Entry	NO	Masterfile Position	97
Nationally Controlled	YES	Masterfile Length	1

Edit Error Messages:

* REQUIREMENT CODE MUST BE 1-5

*** = Fatal Error   * = Warning Error

Coding Considerations:

Code on the following values:

blank	UNKNOWN
0	SIP
3	ENFORCEMENT ACTION COMPLIANCE ORDER OR CONSENT DECREE
5	OTHER
6	PSD
9	NSPS

MONITOR REQUIREMENT CODE DESCRIPTION

Definition: MONITOR REQUIREMENT CODE DESCRIPTION is an English language description of the requirement code.

Retrieval Abbreviation	REQD	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	7		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	N/A
Required on New Entry	N/A	Masterfile Position	N/A
Nationally Controlled	N/A	Masterfile Length	N/A

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

0 - State Implementation Plan
3 - Enforcement Action
5 - Other
6 - Prevention of Significant Deterioration
9 - New Source Performance Standard

MONITOR SERIAL NUMBER

Definition: MONITOR SERIAL NUMBER positively identifies a unit. May be used to determine replacements.

Retrieval Abbreviation	SERL	Valid Values: All alphanumeric characters	
Card Type	51		
Card Columns	62-76		
Data Element Length	15		
Data Type	ALPHANUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	221-235
Nationally Controlled	N/A	Masterfile Length	15

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

See Monitor Manufacturer for applicable comments.

NUMBER OF TESTS

Definition: NUMBER OF TESTS is the cumulative total of performance specification tests performed for a monitor since its installation. Normally, such a test is performed at the initial installation of the monitor.

Retrieval Abbreviation	PSRC	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	2		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	118-119
Nationally Controlled	N/A	Masterfile Length	2

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

This data is generated by the update program; it cannot be input by the user but can be retrieved from the CEM masterfile. This field is incremented each time a "PASS" or "FAIL" is coded in the PST STATUS field.

NUMBER OF FAIL

Definition: NUMBER OF FAIL is the total number of performance specification tests reported with a result of "FAIL" since the monitors installation.

Retrieval Abbreviation	PSRF	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	2		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	122-123
Nationally Controlled	N/A	Masterfile Length	2

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

This data is generated by the update program; it cannot be input by the user but can be retrieved from the CEM masterfile. This field is incremented each time a "FAIL" is coded in the PST STATUS field.

NUMBER OF PASS

Definition: NUMBER OF PASS is the total number of performance specification tests reported with a result of "PASS" since the monitors installation.

Retrieval Abbreviation	PSRP	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	2		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	120-121
Nationally Controlled	N/A	Masterfile Length	2

Edit Error Messages:

*** = Fatal Error
* = Warning Error

Coding Considerations:

This data is generated by the update program: it cannot be input by the user but can be retrieved from the CEM masterfile. This field is incremented each time a "PASS" is coded in the PST STATUS field.

Definition: PERMISSIBLE EMISSION LIMIT is the units and values specified by the regulation noted by the CEM Regulation Number

Retrieval Abbreviation	EMIS	Valid Values: All alphanumeric characters	
Card Type	52		
Card Columns	29-48		
Data Element Length	20		
Data Type	ALPHANUMERIC		
Justified	NO	Masterfile Record Type	34
Required on New Entry	N/A	Masterfile Position	256-275
Nationally Controlled	N/A	Masterfile Length	15

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

Typical values might include:

20% OPAC/6 MIN PERD

0.8 LBS/MBTU SO2

Code the EMIS the same for every monitor subject to the same regulation.

PST DATE

Definition: PST DATE is the date the latest Performance Specification Test was performed and is coded in year/month format.

Retrieval Abbreviation	PSTD, PSTM, PSTY	Valid Values: "YYMM" MM = MONTH YY = YEAR	
Card Type	52		
Card Columns	53-56		
Data Element Length	4		
Data Type	NUMERIC		
Justified	NO	Masterfile Record Type	34
Required on New Entry	NO	Masterfile Position	106-109
Nationally Controlled	NO	Masterfile Length	4

Edit Error Messages:

* INVALID DATE VALUE

*** = Fatal Error   * = Warning Error

Coding Considerations:

PSTD--refers to the entire four character field
PSTM--refers to the month field
PSTY--refers to the year field

Retrieval selection of PSTD data should be in year/month format. To code or select October 1981, enter 8110.

Definition: PST STATUS is the result of the latest performance specification test.

Retrieval Abbreviation	PSTS	Valid Values:	
Card Type	52	"PASS"	
Card Columns	57-60	"FAIL"	
Data Element Length	4	blank	
Data Type	ALPHANUMERIC		
Justified	NO	Masterfile Record Type	34
Required on New Entry	NO	Masterfile Position	110-113
Nationally Controlled	NO	Masterfile Length	4

Edit Error Messages:

*PST STATUS MUST BE PASS OR FAIL

*** = Fatal Error * = Warning Error

Coding Considerations:

When either "PASS" or "FAIL" is entered, the appropriate pass or fail counter (PSRP or PSRF) and the cumulative test counter (PSRC) are incremented by the UPDATE program.

A.2

ACTION LEVEL
DATA ELEMENTS

ACTION TYPE

Definition: ACTION TYPE is a two-position alphanumeric action description identifier.

Retrieval Abbreviation	ATPE
Card Type	70
Card Columns	57-58
Data Element Length	2
Data Type	ALPHANUMERIC

Valid Values:

Must be on Action Table controlled by National CDS DBC.

Action Type 00 indicates an action type which is user defined.

Justified	LEFT	Masterfile Record Type	46
Required on New Entry	YES	Masterfile Position	27-28
Nationally Controlled	YES	Masterfile Length	2

Edit Error Messages:

***INVALID ACTION TYPE
***ACTION TYPE REQUIRED ON NEW ENTRY
*ACT DESC IGNORED - ATPE NOT 00

*** = Fatal Error   * = Warning Error

Coding Considerations:

Please call the National CDS DBC to add, change, or delete entries on the Action Table for your region.

Certain action types are required to input to CDS. Please consult the current FY air enforcement program plans and the most recent SSCD guidance material for the most current requirement.

To obtain the most current version of a region's action types, please contact TRC.

Since many action types are confidential, users should use a password on the 20 card of the Retrieval Request Form to obtain action level information on retrievals.

DATE ACHIEVED

Definition: DATE ACHIEVED is the date on which an action is completed in month/day/year format.

Retrieval Abbreviation	DTAC
Card Type	70
Card Columns	59-64
Data Element Length	6
Data Type	NUMERIC

Valid Values:

Blanks or zeros are acceptable. If numeric other than zero, day must be between 01 and 31, month must be between 01 and 12, and year must greater than 60.

Justified	LEFT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	29-34
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*INVALID DATE ACHVD - OUTPUT SPACES

*** = Fatal Error * = Warning Error

Coding Considerations:

If an error is encountered in the date field, the bad month, day, or year is zeroed out by the Edit Program. An asterisk on a change transaction for this field will zero out the field on the Masterfile.

DATE SCHEDULED

Definition: DATE SCHEDULED is the date which an action is scheduled to be performed. Use the month/day/year format.

Retrieval Abbreviation	DTSC	Valid Values: Blanks or zeros are not acceptable. Day must be between 01 and 31, month must be between 01 and 12, and year must be greater than 60.	
Card Type	70		
Card Columns	65-70		
Data Element Length	6		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	46
Required on New Entry	YES	Masterfile Position	35-40
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*DT SCHED SHOULD BE ON NEW - OP ZEROS
*INVALID DATE SCHED - OUTPUT SPACES

*** = Fatal Error * = Warning Error

Coding Considerations:

If an error is encountered in the date field, the bad month, day, or year is zeroed out. If this field is left blank on a new transaction and if the Date Achieved is valid, the Date Achieved is moved into this field by the Edit Program.

Definition: ACTION STAFF CODE is a three-position code referring to the staff member assigned to complete the action.

Retrieval Abbreviation	PERA	Valid Values: The Staff Code must exist on the Personnel Table controlled by the National CDS DBC. The first position must be alphabetic; the next two numeric. When requesting changes to this table, be sure to give CDS the DBC full title information as well.	
Card Type	70		
Card Columns	71-73		
Data Element Length	3		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	41-43
Nationally Controlled	YES	Masterfile Length	3

Edit Error Messages:

*INVALID STAFF CODE

*** = Fatal Error * = Warning Error

Coding Considerations:

Please call the National CDS DBC to make additions, changes or deletions to the Personal Table.

RESULTS CODE

Definition: RESULTS CODE indicates the results of an action, such as action achieved, action not achieved, or action rescheduled.

Retrieval Abbreviation	STAC
Card Type	70
Card Columns	74-75
Data Element Length	2
Data Type	NUMERIC

Valid Values:

May be a blank. If not a blank, it must be a two-digit numeric field. The Results Code must exist on the Results Code Table controlled by the National CDS DBC.

Justified	LEFT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	61-62
Nationally Controlled	YES	Masterfile Length	2

Edit Error Messages:

*INVALID RESULTS CODE

*** = Fatal Error * = Warning Error

Coding Considerations:

The results code can indicate the success of an action, including whether or not the action was carried out.

Please call the National CDS DBC to add, change, or delete entries on the Results Code Table for your region. Please contact TRC to obtain most current Results Code Table for your region.

Definition: REGIONAL DATA ELEMENT 8 is user supplied.

Retrieval Abbreviation	RDE8	Valid Values:	
Card Type	70		
Card Columns	76-77		
Data Element Length	2		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	63-64
Nationally Controlled	NO	Masterfile Length	2

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

ACTION NUMBER

Definition: ACTION NUMBER is a four digit numberic sequential action identifier.

Retrieval Abbreviation	ANUM	Valid Values: 0000 through 0099	
Card Type	10, 51, 52, 60, 70		
Card Columns	18-21		
Data Element Length	4		
Data Type	YES NUMERIC		
Justified	NO	Masterfile Record Type	20-47
Required on New Entry	NO	Masterfile Position	21-24
Nationally Controlled	NO	Masterfile Length	4

Edit Error Messages:

***Action Numbers must be zeros (card type 10-60)

***Action Numbers must be greater than zero (card type 70)

*** = Fatal Error * = Warning Error

Coding Considerations:

For Card types 10, 51, 52, and 60: the action number is 0000 .

For a 70 Card type:

Actions should be assigned sequentially starting with 0001. When adding a new action to the data base, code 0099, the system will convert the 0099 to the next highest sequential action number for that emission point. If several actions and action comments are entered at the same time with action Number 0099, comments will not be associated with the proper action. Therefore, users must not enter multiple actions and comments with Action Number 0099 simultaneously since these will produce rejects on the Update Report.

An action number cannot be added to the data base unless the emission point and channel number for that action are also being added or already exist on the data base. Each action number must be associated with an emission point and channel number. This channel number should be "000" for entry of "M3" action types which are passed to CDS.

REPORT QUARTER (QUARTER DATE)

Definition: REPORT QUARTER (QUARTER DATE) is a four digit numberic date identifying the year and quarter of the excess emission report.

Retrieval Abbreviation	RQTR	Valid Values: 7001 through 9904 YYQQ YY = Calendar Year QQ = Calendar Quarter	
Card Type	71,72,80		
Card Columns	18-21		
Data Element Length	4		
Data Type	YES NUMERIC		
Justified	NO	Masterfile Record Type	20-47
Required on New Entry	NO	Masterfile Position	21-24
Nationally Controlled	NO	Masterfile Length	4

Edit Error Messages:

***Action Numbers must be greater than zero (card type 70)

*** = Fatal Error * = Warning Error

Coding Considerations:

For a 71, 72 or 80 Card type:

In the case of the 71, 72 and 80 card coding, the Report Quarter is in columns 18-21 where the action number is found on the two last digits of the year are recorded in columns 18-19 and the two digit quarter is recorded in columns 20-21.

Report Quarter is the Calendar quarter (year/quarter) in which the excess emission took place on the 71, 72 card, and if any comments apply to the 71, 72 card data, that same quarter number is used on the 8-0 card comment, in order to match it up.

MONITOR UNAVAILABILITY

Definition: MONITOR UNAVAILABILITY is the percent that the monitor is unavailable as a percent of the total plant operating time.

Retrieval Abbreviation	PMON	Valid Values: 000.000 - 100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	379-384
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error
* = Warning Error

Coding Considerations:

Percent of source operating time that the monitor was unavailable.

$$\frac{\text{Total Monitor Downtime Minutes}}{\text{Total Source Operating Minutes}} \times 100$$

MONITORED OPERATION WITHOUT EXCEEDANCES

Definition: MONITORED OPERATION WITHOUT EXCEEDANCES is the percent of time that the source was operating, monitored, and with no incidents of excess emissions.

Retrieval Abbreviation	POPT	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	4		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	391-396
Nationally Controlled	N/A	Masterfile Length	4

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Percent of monitored time that the source was able to operate with no excess emission.

100% - (% of Reported Operating Time With Exceedances & Monitor Unavailability)

REPORTED OPERATING TIME WITH EXCEEDANCES

Definition: REPORTED OPERATING TIME WITH EXCEEDANCES is the total amount of time that the source was operating and had exceedances.

Retrieval Abbreviation	PEXC	Valid Values:	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	4		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	281-284
Nationally Controlled	N/A	Masterfile Length	4

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

Percent of source operating time that the monitor was operational and the source had excess emissions.

$$\frac{\text{Total Excess Emission Minutes}}{\text{Total Source Operating Minutes}} \times 100$$

Definition: REASONS FOR EXCESS EMISSIONS is designed to provide a single quick look data element showing all 7 excess emission reasons, the equipment malfunction (unacceptable), the process problems unacceptable and the number of incidents of excess emissions.

Retrieval Abbreviation	ROCT	Valid Values:	
Card Type	71, 72		
Card Columns	Card 71=34-78 Card 72=28-38		
Data Element Length	57		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	193-249
Nationally Controlled	N/A	Masterfile Length	57

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

STAR - startup/shutdown
SOOT - cleaning/soot blowing
EXUN - unknown
EQPT - equipment malfunction (total)
EQPU - equipment malfunction (unacceptable)
PROC - process problems (total)
PPRO - process problems (unacceptable)
FUEL - fuel problems
EEOT - other known causes of excess emissions
EEIN - number of incidents of excess emissions

Definition: CLEANING/SOOT BLOWING is a count of the number of excess emission periods/minutes due to cleaning/soot blowing.

Retrieval Abbreviation	SOOT	Valid Values: Must be numeric	
Card Type	71		
Card Columns	40-45		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	199-204
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: CLEANING/SOOT BLOWING (Percent) is the percent of the total quarterly excess emission periods/minutes due to cleaning/soot blowing.

Retrieval Abbreviation	PS00	Valid Values: 000.000 - 100.000	
Card Type	N/A		
Card Columns	6		
Data Element Length	NUMERIC		
Data Type	N/A		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	295-300
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

$$PS00 = \frac{\text{CLEANING/SOOT BLOWING (SOOT)} \times 100}{\text{TOTAL NUMBER OF EXCESS EMISSION PERIODS (EXCP)}}$$

Definition: CONTROL EQUIPMENT FAILURE (TOTAL) is the sum of excess emission periods/minutes both acceptable and unacceptable due to unit/control equipment failure or malfunction.

Retrieval Abbreviation	EQPT	Valid Values: Must be numeric	
Card Type	71		
Card Columns	52-57		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	211-216
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Includes--control equipment malfunction
--unit equipment malfunction

CONTROL EQUIPMENT FAILURE TOTAL (Percent)

Definition: CONTROL EQUIPMENT FAILURE (TOTAL) percent is the percent of the total excess emission periods/minutes, acceptable and unacceptable, due to unit/control equipment failure or malfunction.

Retrieval Abbreviation	PEQP	Valid Values: 000.000 - 100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	307-312
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

CONTROL EQUIPMENT MALFUNCTION UNACCEPTABLE

Definition: CONTROL EQUIPMENT MALFUNCTION (UNACCEPTABLE) is the sum of excess emission periods/minutes due to control equipment malfunctions that were deemed unacceptable.

Retrieval Abbreviation	EQPU	Valid Values: Must be numeric	
Card Type	71		
Card Columns	58-63		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	217-222
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Used only if the control Equipment malfunctions are a large portion of the total excess emissions, and a breakdown to acceptable malfunctions and unacceptable malfunctions is deemed necessary.

This field is not required and is included as an option for those who desire to enter this information.

CONTROL EQUIPMENT MALFUNCTION UNACCEPTABLE (Percent)

Definition: CONTROL EQUIPMENT MALFUNCTION (UNACCEPTABLE) PERCENT is the percentage of the total quarterly excess emission periods/minutes that are equipment malfunction (unacceptable). The use of the equipment malfunction (unacceptable) field is optional.

Retrieval Abbreviation	PEQU	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	313-318
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error
* = Warning Error

Coding Considerations:

Definition: PROCESS PROBLEMS TOTAL is the sum of excess emission periods/minutes both acceptable and unacceptable due to process problems.

Retrieval Abbreviation	PROC	Valid Values: Must be numeric	
Card Type	71		
Card Columns	64-69		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	235-240
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: PROCESS PROBLEMS TOTAL (Percent) is the percent of the total quarterly excess emission periods/minutes due to process problems.

Retrieval Abbreviation	PPRO	Valid Values:	000.000-100.000
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	319-324
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: PROCESS PROBLEMS (Unacceptable) is the sum of excess emission periods/minutes due to process problems that were deemed unacceptable.

Retrieval Abbreviation	PRUN	Valid Values:	
Card Type	71		
Card Columns	70-75		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	241-246
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Used only if the process problems are a large portion of the total excess emissions, and a breakdown to acceptable process problems and unacceptable process problems is deemed necessary.

PROCESS PROBLEMS UNACCEPTABLE (Percent)

Definition: PROCESS PROBLEMS UNACCEPTABLE (Percent) is the percent of the total quarterly excess emission periods/minutes due to process problems that were deemed unacceptable. The use of the process problems (unacceptable) field is optimal.

Retrieval Abbreviation	PPRU	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	325-330
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

STARTUP/SHUTDOWN

Definition: STARTUP/SHUTDOWN is a count of the number of excess emission periods/minutes due to the starting up or shutting down of the source.

Retrieval Abbreviation	STAR	Valid Values: Must be numeric	
Card Type	71		
Card Columns	34-39		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	193-198
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

STARTUP/SHUTDOWN (Percent)

Definition: STARTUP/SHUTDOWN (Percent) is the percent of the total quarterly excess emission periods/minutes due to startup or shutdown of the source.

Retrieval Abbreviation	PSTA	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	289-294
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

UNKNOWN EXCESS EMISSIONS

Definition: UNKNOWN EXCESS EMISSIONS is the percent of the total number of periods/minutes the monitor recorded excess emissions due to unknown reasons.

Retrieval Abbreviation	EXUN	Valid Values: must be numeric	
Card Type	71		
Card Columns	46-51		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	No	Masterfile Position	205-210
Nationally Controlled	No	Masterfile Length	6

Edit Error Messages:

* = Reason field must be numeric

*** = Fatal Error   * = Warning Error

Coding Considerations:

UNKNOWN EXCESS EMISSIONS (Percent)

Definition: UNKNOWN EXCESS EMISSIONS (Percent) is the percent of the total quarterly excess emission periods/minutes due to unknown reasons.

Retrieval Abbreviation	PEXU	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	301-306
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

FUEL PROBLEMS

Definition: FUEL PROBLEMS is the number of periods/minutes the monitor recorded excess emissions due to fuel problems.

Retrieval Abbreviation	FUEL	Valid Values: Must be numeric	
Card Type	72		
Card Columns	27-32		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	223-228
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: FUEL PROBLEMS (Percent) is the percent of the total quarterly excess emissions periods/minutes due to fuel problems.

Retrieval Abbreviation	PFUE	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	331-336
Nationally Controlled	N/A	Masterfile Length	

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

OTHER KNOWN EXCESS EMISSIONS

Definition: OTHER KNOWN EXCESS EMISSIONS is the number of periods/minutes the monitor recorded excess emissions due to other known reasons.

Retrieval Abbreviation	EEOT	Valid Values:	
		Must be numeric	
Card Type	72		
Card Columns	33-38		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	229-234
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: **OTHER KNOWN EXCESS EMISSIONS (Percent) is the percent of the total quarterly excess emissions periods/minutes due to other known reasons.**

Retrieval Abbreviation	PEEO	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	337-342
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

Definition: NUMBER OF INCIDENTS OF EXCESS EMISSIONS is the total number of incidents of excess emissions recorded by the monitor.

Retrieval Abbreviation	EEIN	Valid Values: Must be numeric	
Card Type	71		
Card Columns	76-78		
Data Element Length	3		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	247-249
Nationally Controlled	NO	Masterfile Length	3

Edit Error Messages:

*NUMBER OF INCIDENTS NOT NUMERIC

*** = Fatal Error   * = Warning Error

Coding Considerations:

REASONS FOR MONITOR DOWN TIME

Definition: REASONS FOR MONITOR DOWN TIME is designed to provide a single quick look data element showing all reasons the monitor is down. These are the 5 most common reasons, and the number of incidents of monitor downtime.

Retrieval Abbreviation	BPMD	Valid Values:	
Card Type	72		
Card Columns	39-71		
Data Element Length	33		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	250-282
Nationally Controlled	N/A	Masterfile Length	33

Edit Error Messages:

*** = Fatal Error   * = Warning Error

Coding Considerations:

The 5 reasons are:

MOEQ - monitor equipment malfunction
NMEQ - non-monitor equipment malfunction
CALI - calibration
MOUN - unknown
MOOT - other known monitor downtime

MOIN - number of incidents of monitor downtime

CALIBRATION

Definition: CALIBRATION is the number of monitor downtime periods/minutes due to calibration of the monitor.

Retrieval Abbreviation	CALI	Valid Values: Must be numeric	
Card Type	72		
Card Columns	51-56		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	262-267
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

CALIBRATION (Percent)

Definition: CALIBRATION (Percent) is the percentage of the total quarterly monitor down time periods/minutes due to monitor calibration.

Retrieval Abbreviation	PCAL	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	361-366
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: MONITOR EQUIPMENT MALFUNCTION is the number of monitor down time periods/minutes due to malfunction of the monitor equipment.

Retrieval Abbreviation	MOEQ	Valid Values: Must be numeric	
Card Type	72		
Card Columns	39-44		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	250-255
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

MONITOR EQUIPMENT MALFUNCTION (Percent)

Definition: **MONITOR EQUIPMENT MALFUNCTION (Percent) is the percentage of the total quarterly monitor down time periods/minutes resulting from monitor equipment failure.**

Retrieval Abbreviation	PMOE	Valid Values:	000.000-100.000
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	349-354
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error

* = Warning Error

Coding Considerations:

Definition: NON-MONITOR EQUIPMENT MALFUNCTION is the number of monitor down time periods/minutes due to non-monitor equipment malfunction.

Retrieval Abbreviation	NMEQ	Valid Values: Must be numeric	
Card Type	72		
Card Columns	45-50		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	256-261
Nationally Controlled	NO	Masterfile Length	

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Non-monitor equipment malfunctions include:

- data processor malfunction
- running out of paper
- running out of ink

NON-MONITOR EQUIPMENT MALFUNCTION (Percent)

Definition: NON-MONITOR EQUIPMENT MALFUNCTION (Percent) is the percentage of the total quarterly monitor down time periods/minutes due to non-monitor equipment failure.

Retrieval Abbreviation	PNME	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	355-360
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

OTHER KNOWN MONITOR DOWN TIME

Definition: OTHER KNOWN MONITOR DOWN TIME is the number of monitor down time periods/minutes due to other known reasons.

Retrieval Abbreviation	MOOT	Valid Values: Must be numeric	
Card Type	72		
Card Columns	63-68		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	274-279
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: OTHER KNOWN MONITOR DOWN TIME (Percent) is the percentage of the total quarterly monitor down time periods/minutes for other known reasons.

Retrieval Abbreviation	PMOO	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	373-378
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

Definition: UNKNOWN MONITOR DOWN TIME is the number of monitor down time periods/minutes due to unknown reasons.

Retrieval Abbreviation	MOUN	Valid Values: Must be numeric	
Card Type	72		
Card Columns	57-62		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	268-273
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*REASON FIELD MUST BE NUMERIC

*** = Fatal Error　　* = Warning Error

Coding Considerations:

UNKNOWN MONITOR DOWN TIME (Percent)

Definition: UNKNOWN MONITOR DOWN TIME (Percent) is the percentage of the total quarterly monitor down time periods/minutes for reasons unknown.

Retrieval Abbreviation	PMOU	Valid Values: 000.000-100.000	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/a	Masterfile Position	367-372
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

NUMBER OF INCIDENTS OF MONITOR DOWN TIME

Definition: NUMBER OF INCIDENTS OF MONITOR DOWN TIME is the total number of incidents of monitor down time.

Retrieval Abbreviation	MOIN	Valid Values: Must be numeric	
Card Type	72		
Card Columns	69-71		
Data Element Length	3		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	NO	Masterfile Position	280-282
Nationally Controlled	NO	Masterfile Length	3

Edit Error Messages:

*NUMBER OF INCIDENTS NOT NUMERIC

*** = Fatal Error

* = Warning Error

Coding Considerations:

TIME PERIOD

Definition: TIME PERIOD is a 1-digit code indicating whether the excess emissions from the EER's are reduced and coded for a specified period of time, or in minutes.

Retrieval Abbreviation	TIME	Valid Values: M,A,B,C,D,E,F,G	
Card Type	71		
Card Columns	27		
Data Element Length	1		
Data Type	ALPHABETIC		
Justified	NO	Masterfile Record Type	46
Required on New Entry	YES	Masterfile Position	186
Nationally Controlled	NO	Masterfile Length	1

Edit Error Messages:

*TIME PERIOD MUST BE P OR M

*** = Fatal Error   * = Warning Error

Coding Considerations:

M = Minutes
A = 6 minutes
B = 15 minutes
C = 30 minutes
D = 1 hour (60 minutes)
E = 2 hours (120 minutes)
F = 3 hours (180 minutes)
G = 24 hours (1440 minutes)

TOTAL EXCESS EMISSION

Definition: TOTAL EXCESS EMISSION is the number of periods/minutes during a quarter that the source had excess emissions of a specific pollutant.

Retrieval Abbreviation	EXCP
Card Type	N/A
Card Columns	N/A
Data Element Length	6
Data Type	NUMERIC

Valid Values:

System-generated from
reasons for excess emission (ROCT)

Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	283-288
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

"Period" is a duration of time specified by the regulation defining excess emissions for the specified pollutants (PATE 1983).

TOTAL MONITOR DOWN TIME

Definition: TOTAL MONITOR DOWN TIME is the number of periods/minutes a monitor has malfunctioned and is out of service during a given quarter.

Retrieval Abbreviation	MONP	Valid Values: System-generated from reason for monitor down time (BPMD).	
Card Type	N/A		
Card Columns	N/A		
Data Element Length	6		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	343-346
Nationally Controlled	N/A	Masterfile Length	6

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

See comment for total excess emission.

Definition: TOTAL SOURCE OPERATING TIME is the total number of minutes/periods that a source is operating.

Retrieval Abbreviation	OPER	Valid Values: Must be numeric. Not required, but important.	
Card Type	71		
Card Columns	28-33		
Data Element Length	6		
Data Type	NUMERIC		
Justified	RIGHT	Masterfile Record Type	46
Required on New Entry	N/A	Masterfile Position	187-192
Nationally Controlled	NO	Masterfile Length	6

Edit Error Messages:

*OPERATING PERIODS MUST BE NUMERIC.

*** = Fatal Error * = Warning Error

Coding Considerations:

Enter the number of operating periods in periods or minutes.

The total number of operating periods is a function of the definition of a period as defined in 40 CFR 60.7. This unit varies depending on the pollutant. (PATE 1983)

A.3

OTHER DATA ELEMENTS

REGION CODE

Definition: REGION CODE is a two-position numeric region identifier.

Retrieval Abbreviation	REGN
Card Type	10,51,52,60,70,71 72,80
Card Columns	1-2
Data Element Length	2
Data Type	NUMERIC

Valid Values:

01 through 10

See attachment showing the region locations and the states associated with each region.

Justified	LEFT	Masterfile Record Type	20, 21, 30, 34, 35, 46, 47
Required on New Entry	YES	Masterfile Position	1-2
Nationally Controlled	YES	Masterfile Length	2

Edit Error Messages:

***INVALID REGION CODE
***INVALID REGION ON CONTROL CARD

*** = Fatal Error   * = Warning Error

Coding Considerations:

Region must be present on all input transactions. State code and region are cross-validated; the user may not use a state code which is not valid for his region.

Region cannot be changed or blanked out once it has been put on the database. If it must be changed, the entire source must be deleted and reentered with the correct region code.

REGION CODE

States have been assigned to regions as follows:

01 - Boston	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
02 - New York	New Jersey, New York, Puerto Rico, Virgin Islands
03 - Philadelphia	Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, West Virginia
04 - Atlanta	Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee
05 - Chicago	Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin
06 - Dallas	Arkansas, Louisiana, New Mexico, Oklahoma, Texas
07 - Kansas City	Iowa, Kansas, Missouri, Nebraska
08 - Denver	Colorado, Montana, North Dakota, South Dakota, Utah
09 - San Francisco	Arizona, California, Hawaii, Nevada, Guam, American Samoa, Trust Territories
10 - Seattle	Alaska, Idaho, Oregon, Washington

STATE CODE

Definition: STATE CODE is a two-position numeric field. The state codes are derived from the Storage and Retrieval of Aerometric Data Manual (SAROAD) published by OAQPS.

Retrieval Abbreviation	STTE	Valid Values: 01-56 See attached list showing the states associated with each state code.	
Card Type	10, 51, 52, 60, 70, 71, 72, 80		
Card Columns	3-4		
Data Element Length	2		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	20, 21, 30, 34, 35, 46, 47
Required on New Entry	YES	Masterfile Position	3-4
Nationally Controlled	YES	Masterfile Length	2

Edit Error Messages:

***INVALID STATE CODE
***STATE NOT IN REGION

*** = Fatal Error   * = Warning Error

Coding Considerations:

State code must be present on all transactions. State must be valid for the region. State cannot be changed or blanked out on the database. If it must be changed, the entire source must be deleted and reentered with the correct state code.

STATE CODE

The CDS System use the following two-digit SAROAD state codes:

01	Alabama
02	Alaska
03	Arizona
04	Arkansas
05	California
06	Colorado
07	Connecticut
08	Delaware
09	District of Columbia
10	Florida
11	Georgia
12	Hawaii
13	Idaho
14	Illinois
15	Indiana
16	Iowa
17	Kansas
18	Kentucky
19	Louisiana
20	Maine
21	Maryland
22	Massachusetts
23	Michigan
24	Minnesota
25	Mississippi
26	Missouri
27	Montana
28	Nebraska
29	Nevada
30	New Hampshire
31	New Jersey
32	New Mexico
33	New York
34	North Carolina
35	North Dakota
36	Ohio
37	Oklahoma
38	Oregon
39	Pennsylvania
40	Puerto Rico
41	Rhode Island
42	South Carolina
43	South Dakota
44	Tennessee
45	Texas
46	Utah
47	Vermont
48	Virginia
49	Washington
50	West Virginia
51	Wisconsin
52	Wyoming
53	American Samoa
54	Guam
55	Virgin Islands
56	Trust Territories

DATA DICTIONARY

COUNTY CODE

Definition: COUNTY CODE is a four-digit numeric county identifier. The county codes are derived from the SAROAD Manual.

Retrieval Abbreviation	CNTY
Card Type	10, 51, 52, 60, 70, 71, 72, 80
Card Columns	5-8
Data Element Length	4
Data Type	NUMERIC

Valid Values:

All county codes must be present on the CDS County Code/AQCR table.

Justified	LEFT	Masterfile Record Type	20, 21, 30, 34, 35, 46, 47
Required on New Entry	YES	Masterfile Position	5-8
Nationally Controlled	YES	Masterfile Length	4

Edit Error Messages:

***INCORRECT COUNTY CODE FOR STATE

*** = Fatal Error   * = Warning Error

Coding Considerations:

Please contact the National DBC to update the county code file. County code must be present on all transactions; it cannot be changed or blanked out on the database.

Definition: SOURCE NUMBER is a five-digit numeric facility identifier.

Retrieval Abbreviation	SRCE	Valid Values: All numeric values	
Card Type	10, 51, 52, 60, 70, 71, 72, 80		
Card Columns	9-13		
Data Element Length	5		
Data Type	NUMERIC		
Justified	LEFT	Masterfile Record Type	20, 21, 30, 34, 35, 46, 47
Required on New Entry	YES	Masterfile Position	9-13
Nationally Controlled	NO	Masterfile Length	5

Edit Error Messages:

***SOURCE NUMBER MUST BE NUMERIC

*** = Fatal Error   * = Warning Error

Coding Considerations:

The first digit of the CDS Source Number must correspond to the Air Program Code. For sources subject to more than one air program, the last four digits of the CDS Source Number must be entered the same. This can be done easily by using the NEDS source numbering convention: use the NEDS Cross-Reference Number (NEDS Plant ID). If the NEDS Cross-Reference Number is not available, the next highest sequential number within the county can be assigned.

CARD CODE

Definition: CARD CODE is a one-digit numeric field which identifies the type of fixed-format information found on the CDS input punch card.

Retrieval Abbreviation	N/A
Card Type	10, 51, 52, 60,
Card Columns	22-23
Data Element Length	2
Data Type	NUMERIC

Valid Values:

10 = Source Record
51 = Monitor Record
52 = Monitor Record
60 = Monitor Comments
70 = Action Record
71 = Action Record (Excess Emissions Report)
72 = Action Record (Excess Emissions Report)
80 = Action Comment

Justified	N/A	Masterfile Record Type	N/A
Required on New Entry	YES	Masterfile Position	N/A
Nationally Controlled	YES	Masterfile Length	N/A

Edit Error Messages:

*** INVALID CARD CODE

*** = Fatal Error   * = Warning Error

Coding Considerations:

Card Colums 14-21 must contain zeros for card 10.
Card Columns 18-21 must contain zeros for cards 51,52 and 60.

LINE NUMBER

Definition: LINE NUMBER is used by the computer to distinguish one comment line from another.

Retrieval Abbreviation	N/A	Valid Values: 0 through 9	
Card Type	60, 80		
Card Columns	27		
Data Element Length	1		
Data Type	NUMERIC		
Justified	N/A	Masterfile Record Type	35, 47
Required on New Entry	YES	Masterfile Position	27
Nationally Controlled	YES	Masterfile Length	1

Edit Error Messages:

***LINE NUMBER MUST BE NUMERIC

*** = Fatal Error * = Warning Error

Coding Considerations:

Assign line numbers sequentially. Before assigning a line number, refer to the Source Data Report to be sure the number you code is not already on the database for that particular emission point. Although Line Number is carried on the Masterfile, it is not a retrievable data element.

Definition: COMMENTS can be used to place on the CEM Masterfile data which does not fit into any fixed card format.

Retrieval Abbreviation	N/A	Valid Values: All alphanumeric values.	
Card Type	60, 80		
Card Columns	28		
Data Element Length	52		
Data Type	ALPHANUMERIC		
Justified	LEFT	Masterfile Record Type	35, 47
Required on New Entry	NO	Masterfile Position	28-79
Nationally Controlled	NO	Masterfile Length	52

Edit Error Messages:

*** = Fatal Error * = Warning Error

Coding Considerations:

All comments can be retrieved on a Source Data Report and only action comments can be retrieved on an Action Summary Report.

Use: Card 60 for a point comment.
Card 80 for an action comment.

Do not use comment records to carry enforcement action information or compliance status information; other card types are available for these purposes.

UPDATE CODE

Definition: UPDATE CODE tells the update program to add, change, or delete a transaction. This data element is not carried on the masterfile but serves to tell the update program what to do with other data on the input transaction.

Retrieval Abbreviation	N/A
Card Type	10, 51, 52, 60,
Card Columns	80
Data Element Length	1
Data Type	ALPHA

Valid Values:

N = New

C = Change

D = Delete

A = Add (Card 10 only)

Justified		Masterfile Record Type	N/A
Required on New Entry	YES	Masterfile Position	N/S
Nationally Controlled	YES	Masterfile Length	N/A

Edit Error Messages:

***INVALID UPDATE CODE
***DO NOT DELETE POINT 000
***NO DATA IN COL 27-79 FOR DELETES

*** = Fatal Error   * = Warning Error

Coding Considerations:

The CEM EDIT only validates the existence of the update code; it is the Update report which points out incorrect or illogical update codes.

Each card type has a corresponding record type on the CEM data base. If a card type 51, 60, 70, 71 or 80 has not already created a masterfile record type, it must be added as New. Each point, action, or comment record must be associated with a corresponding source record. Each point comment must be associated with a point. Each action must be associated with a point. Each action comment must be associated with an action. A new source is added to CEM with a card type 10, with an update code of "A".

Key data elements (region, state, county, source, point and action numbers) cannot be changed. Other data elements can be changed by using the update code "C". Only those record types which have been successfully added as new

prior to this update cycle can be changed. Only those data elements which are actually being changed need to be added on a change transaction. By coding an asterisk anywhere in a data field, that data field will be changed to spaces (data values will be zeroed out).

The update code 'D' deletes one or more records on the CEM data base. A card type 10 delete will delete all masterfile records for a given source.

A card type 51 will delete a point together with all associated comments, actions, and action comments. Point 0000 cannot be deleted unless a card type 10 is used for the delete function.

A card type 70 or 71 will delete an action together with all associated action comments.

A card type 60 or 80 delete must have a valid line number. One delete card is needed to delete each comment line number.

If a 'D' is entered in column 80, no data may be punched in columns 27 through 79. This protects the data base against a mispunched delete update code.

APPENDIX B

MEMORANDUM: GUIDANCE CONCERNING EPA'S USE OF CONTINUOUS EMISSION MONITORING DATA; KATHLEEN M. BENNET, AUGUST 12, 1982

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D C 20460

AUG 12 1982

OFFICE OF
AIR, NOISE AND RADIATION

MEMORANDUM

SUBJECT: Guidance Concerning EPA's Use of Continuous Emission Monitoring Data

FROM: Kathleen M. Bennett Kathleen M. Bennett
Assistant Administrator for Air, Noise and Radiation

TO: Directors, Air and Waste Management Divisions,
Regions II-IV, VI-VIII, and X

Directors, Air Management Divisions,
Regions I, V and IX

This memorandum addresses EPA's use of Continuous Emission Monitoring (CEM) data in enforcement of NSPS and SIP emission and operating and maintenance (O&M) provisions and in other general EPA activities. It provides guidance as to when, as a legal matter, continuous emission monitoring constitutes the test method associated with an emission limitation. It is not intended to preclude the exercise of reasoned discretion by an enforcing agency based on a review of the representativeness of the data and the circumstances giving rise to the excess emissions.

Use of CEMs that are Specified as the Source Compliance Test Method

In each instance where CEMs have been promulgated or approved by the Agency as an official method to determine source compliance with the applicable emission limitations, the Agency can rely upon CEM data when making compliance determinations. CEMs have been specifically prescribed as the method to establish emission violations for one or more pollutants in the following instances:

- NSPS electric utility steam generating units, regulated by 40 CFR Part 60 Subpart Da;
- NSPS primary nonferrous smelters, regulated by 40 CFR Part 60 Subparts P, Q and R;
- NSPS stationary gas turbines, regulated by 40 CFR Part 60 Subpart GG;
- various sources regulated by permits, orders, or consent decrees in which CEM has been specifically designated as the test method;

(Continued)

- various types of sources which are regulated by SIPs (e.g., Nevada SIP, 40 CFR §52.1475(d)) where the State has specified CEM as the test method.

Some sources object to EPA's reliance upon CEM data to enforce SIP emission provisions for source categories for which EPA has not specified the use of CEMs in comparable NSPS regulations. Such an objection is not legally supportable, since States have the right to specify their own methods in their SIPs, even if they are different from those imposed by EPA for NSPS sources. Section 1.0 of Appendix P to 40 CFR Part 51 delineates that SIPs may specify that CEM data be used "directly or indirectly for compliance determinations or any other purpose deemed appropriate by the State." The Agency can rely upon CEM data for compliance determinations whenever such methods are specified in the EPA-approved SIP.

Use of CEMs in SIPs where an Emission Compliance Test Method is Not Specified

There are some instances when SIPs do not specify a compliance test method. When that occurs, the applicable regulation, 40 CFR §52.12(c)(1), states that for the purpose of Federal enforcement:

> "sources subject to plan provisions which do not specify a test procedure... will be tested by means of the appropriate procedures and methods prescribed in Part 60 of this chapter; unless otherwise specified in this part."

Generally, Part 60 does not specify CEM as the compliance test method and therefore EPA cannot use CEM data to determine source compliance with a SIP emission limitation. However, in accordance with §52.12(c)(1), CEM data would be the applicable test method for the two categories of sources for which it is the NSPS performance test method, nonferrous smelters (as in Subparts P, Q and R); and stationary gas turbines (as in Subpart GG).

The Agency shall rely upon CEM data to determine a source's compliance status with a SIP emission limit for smelters (for SO_2) and for stationary gas turbines (for NO_x). Since CEM is the only compliance test method specified in Part 60 for these source categories, CEM is clearly the "appropriate" method under Part 60 for purposes of §52.12(c)(1).

In addition, there is some ambiguity regarding the appropriate procedures for fossil-fuel-fired steam generators prescribed in Part 60 because Part 60 contains two significantly different types of SO_2 and NO_x performance test methods. Specifically, Subpart D specifies

(Continued)

Reference (stack test) Methods 6 and 7 as the performance test methods for SO_2 and NO_x emissions, respectively. However, Subpart Da specifies use of CEM data to determine compliance with the SO_2 and NO_x emission standards.

The Agency shall rely upon the performance test methods specified in Subpart D (Reference Methods 6 and 7) to determine a source's compliance status with SIP SO_2 and NO_x emission limits for fossil-fuel-fired steam generators. For this category of sources, it is more consistent with the development of the SIPs to use these methods since they are the traditional compliance test methods for this source category. (For new sources actually subject to Subpart Da, we would not expect this issue to arise since new source permits should specify the applicable test method.)

Use of CEM's where State Regulations Contain Discretionary Authority as to Compliance Test Methods

A problem in interpreting the SIP continually arises because most SIPs specify test methods (often adopting EPA methods by reference) but also allow for discretionary acceptance of an "equivalent" or an appropriate "alternative" by the State. Relying on such language, many States have accepted CEM data as an adequate demonstration of compliance and have used such data to determine the existence of a violation.

Since EPA's enforcement authority is guided by State regulations specifically approved in the SIP, questions have been raised as to whether EPA will independently apply State discretionary authority and interpret what is reasonable as an "equivalent" or "alternative" compliance test method, or, if not, whether EPA may follow the State's lead, if the State chooses to allow CEM as the test method.

The answer is that EPA will not independently exercise such authority. Only when the State has exercised such authority to adopt CEM as a test method and when the exercise of that authority has been reflected in the SIP, will EPA use CEM as the test method.

Use of CEM Data for Determining Potential Operations and Maintenance (O&M) Violations

NSPS regulations (40 CFR 60.11(d)) specify that "at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information

(Continued)

available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source." Many SIP's have similar provisions requiring proper operation and maintenance. Use of CEM data, while not necessarily conclusive, is a valid indicator of compliance with requirements such as §60.11(d) and can be used as such.

Use of CEMs as a General Compliance Monitoring Tool

CEMs can provide the Agency with useful data for circumstances other than those delineated above. For instance, CEM data can be used to: (1) screen a source's compliance status (with both emission limitations and O&M requirements); (2) select which sources should be inspected or compliance (stack) tested; (3) document the severity (e.g., duration, magnitude and frequency) of a source's excess emissions; and (4) document that a compliance test was performed during "non-representative" operating conditions.

APPENDIX C

FINAL TECHNICAL GUIDANCE ON THE REVIEW AND USE OF EXCESS EMISSION REPORTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OCT 5 1984

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Final Technical Guidance on the Review and Use of Excess Emission Reports

FROM: Director
Stationary Source Compliance Division
Office of Air Quality Planning and Standards

TO: Directors, Air and Waste Management Division
Regions II, IV, VI-VIII, and X

Directors, Air Management Division
Regions I, III, V, and IX

This memorandum presents final technical guidance on the review and use of Excess Emission Reports (EERs) being submitted by NSPS Subpart D sources and others where the monitoring data are not used directly to determine compliance with the emission limits. This guidance is in direct support of the Agency's Continuous Compliance Strategy and SPMS items A/ER-8 thru 10 for FY 1985. The guidance may be helpful to State/local agencies as well and may be forwarded at the discretion of each Region.

On August 3, 1984, a draft of this guidance was distributed to the Regional Offices and interested Headquarters Offices. Comments were received from six Regional Offices, three Headquarters offices, and the State of Wisconsin. In general, these comments were very supportive of the draft, included a number of detailed suggestions for improvement, and encouraged the expeditious issuance of final guidance. We recognize that the FY 1985 continuous emission monitoring system (CEMS) program is a major initiative for many of the Regions and is based to a large extent on the availability of this guidance. Therefore, we have judged it appropriate to issue the guidance now and to supplement the guidance as appropriate in an EER "Users Handbook" during FY 1985.

A discussion of the major areas of comment and the responses received to the questions posed in the August 3rd memorandum is presented in the following sections.

I. MAJOR COMMENTS

A. Form of Guidance/Regional Office Responsibilities

The subject document is intentionally being issued as "technical guidance" rather than as "program guidance", providing a great deal of detailed information, forms, and example decision criteria adaptable to a wide range of circumstances. We recognize that since the CEMS program is a relatively new program for most Regional Offices, program-related issues will also arise. Such issues are outside the scope of this guidance and will be addressed separately.

B. Importance of EER Review and Use

Based upon the experience of some Regional Offices, particularly Region V's, SSCD revised the text of the draft to emphasize the three primary EER activities of: (1) inventory development; (2) assessment of source compliance with the CEMS installation and operation requirements; and (3) review and use of EERs. This doesn't mean that other elements of the program to acquire valid, representative data are unimportant. It's just that such activities (e.g., performance specification testing) are solely the responsibility of the source, not the Agency. By the Agency primarily concentrating its CEMS program resources on EERs review and follow-up, most sources will find that it is in their own best interest to achieve all of the CEMS requirements, and to verify the quality of their data before submitting it to the Agency.

II. RESPONSES TO SSCD's EER QUESTIONS

A. Dual Reporting of EERs to State and Federal Agencies

In general, commenters supported the need for a limited period of dual reporting. They stressed that EPA should initially obtain and (at least) spot-check duplicate copies of EERs from sources in States which have received NSPS delegation in order to conduct effective oversight audits of the State's enforcement of the CEMS regulations. Furthermore, they strongly supported the concept of reducing the quantity of dual reporting and the level of oversight audits once the State had demonstrated its ability to implement the program. Subsequent oversight could be achieved by receiving and reviewing a small, random fraction of a State's EERs or by receiving summary reports from the State. (Regional Offices and their States are free to establish any mutually-acceptable arrangement consistent with assuring, at a minimum, accomplishment of the FY 1985 SPMS requirements.)

B. Source Submission of Summaries of Their Excess Emissions

Commenters strongly supported the concept of requiring the sources to include summaries of their excess emissions in their quarterly EERs. They also supported the idea of specifying a standard format, content, and reason codes for the summaries as well as the traditional EER data in order to minimize the burden upon agencies and sources. The commenters also strongly supported our recommendations that: (1) all CEMS-affected sources should initially submit both the summaries and the traditional EERs; and (2) once a source demonstrated its commitment and capability to implement a high quality CEMS program, their reporting burden might be reduced to submission of only the summary data portion of the EER report.

The comments included a wide range of recommendations on how the Agency should proceed to obtain source submission of the summary data from the sources. These included: (1) use of §114 letters on a case-by-case basis or in a national promulgation; (2) a regulatory revision; and (3) simply thorough implementation of this guidance.

SSCD intends to work with ESED and other parts of the Agency to develop a consensus on which changes should be made to the reporting requirements and how to proceed most effectively. Careful consideration of the requirements of the Paperwork Reduction Act is an essential element of this review.

C. Applicability of Guidance to Subpart Da Sources

Most respondents to our question on this subject indicated that, based on their limited experience, they thought that the proposed guidance would assist them in reviewing CEMS compliance reports from Subpart Da and other sources where the monitor provides compliance data. A few commenters volunteered their assistance and recommended that the Agency obtain some additonal experience before it attempts to develop a guideline on this subject. One Regional Office with considerable CEMS program experience stated that, "We do not think the discretionary, probabilistic, comparative philosophy of this screening strategy is appropriate for sources subject to clear requirements for self-documenting their continuous compliance status". We agree with this statement and with the need to obtain additional experience before guidance is developed. Accordingly, the draft guidance was not changed with respect to its inapplicability to Subpart Da or other sources where the CEMS is the compliance method.

In summary, the comments received on the draft guidance urged that final guidance be issued as soon as possible, incorporating relatively few major changes to the draft. SSCD intends to continue to support the program by issuing supplementary information and program guidance. Furthermore, SSCD plans to work with other elements of the Agency to try to address the remaining issues such as revision of the EER reporting requirements and possible applications of CEMS as the compliance method on additional source categories.

Edward E. Reich

Attachment

cc: J. Farmer, Director, ESED
D. Tyler, Director, CPDD
E. Salo, OGC
M. Alushin, OECM
Air Branch Chiefs, Regions I-X
Air Compliance Branch Chiefs, Regions II, III, V, VII, IX
Directors, Environmental Services Division, Regions I-X

United States
Environmental Protection
Agency

Office of Air Quality
Planning and Standards
Washington DC 20460

EPA-340/1-84-015
September 1984

Stationary Source Compliance Series

EPA

Technical Guidance On Review and Use Of Excess Emission Reports

EPA-340/1-84-015

Technical Guidance On The Review and Use Of Excess Emission Reports

Prepared by

Louis R. Paley
Technical Support Branch

U S. ENVIRONMENTAL PROTECTION AGENCY
Stationary Source Compliance Division
Office of Air Quality Planning and Standards
Washington, D C. 20460

September 1984

ATTACHMENT

TECHNICAL GUIDANCE ON THE REVIEW AND USE OF EXCESS EMISSION REPORTS (EERS)

GUIDANCE

		Page No.
I.	INTRODUCTION AND SUMMARY	1
II.	INVENTORY DEVELOPMENT AND DETERMINATION OF SOURCE COMPLIANCE WITH CEMS INSTALLATION AND OPERATING REQUIREMENTS	3
III.	EXCESS EMISSION REPORT ANALYSIS	4
IV.	EXAMPLE TARGETING CRITERIA AND RECOMMENDED AGENCY FOLLOW-UP ACTIONS	9
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VII.	CONTACTS FOR FUTURE TECHNICAL ASSISTANCE, COMMENTS, AND ADDITIONAL COPIES OF GUIDANCE	18

APPENDICES

1. EER Reviewer's Checklist A-1

2. Summary of Agency Survey of Recommendations for Revising EER Requirements and for Using EERS A-2

- Need for EER summary
- Summarize quantity of incidents and duration of excesses
- Normalize data using process operating data
- Categorize excess emission data
- Use standarized reason category definitions
- Minimum agency EER review program

3. CEMS General Compliance Audit Data Sheet A-3

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FIGURES

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TECHNICAL GUIDANCE ON THE REVIEW AND USE OF EXCESS EMISSION REPORTS (EERS)

I. Introduction and Summary

This guidance is in direct support of three Agency policy statements on the Stationary Air Compliance Program.* Although it outlines a program primarily based upon Agency experience with EERs from large boilers, the guidance can be used for the review and follow-up of EERs derived from continuous emission monitoring systems (CEMS) required by most Federally-enforceable regulations (most current applications of CEMS data, other than direct compliance determinations with emission standards such as in Subpart Da). Specifically these applications of CEMS/EER data include targeting, general source surveillance, determinations of compliance with operation and maintenance (O&M) requirements, and general case support.

The guidance recommends the implementation of a methodical procedure to review and follow up on EERs derived from sources which the agency believes for the most part are in compliance with their emission, monitoring, and reporting requirements. In general, the procedures are not designed primarily for use on known violators or sources which have had a long history of non-compliance. The guidance will facilitate the agency's division of the remaining ("nominally complying") sources into two groups: (a) those with suspected compliance problems; and (b) those that are apparently in compliance. For sources suspected of a violation, the agency should follow-up the EER review with conventional compliance methods such as stack tests, and for the second group simply update its compliance data system, as necessary.

It is believed that such a process will permit the agency to better concentrate its resources on those sources which have compliance problems. Accordingly, implementation of the guideline should be seen and used as an important supplement to an agency's present surveillance/compliance monitoring methods.

The technical guidance addresses various elements of an effective program to use EERs and is divided into five sections:

- development of a CEMS inventory and determination of source compliance with CEMS installation and operating requirements;

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* "Agency Operating Guidance FY 1985-1986" dated February 1984; "Compliance Strategy for Stationary Sources of Air Pollution", dated January 1984; "Strategy to Assure Continuous Compliance by Stationary Sources of Air Pollution", dated April 1984.

- excess emission report analysis;
- examples of criteria and agency follow-up actions,
- entry of EER data and results of agency review into CDS and its CEMS Subset; and
- general review of CEMS data quality and source compliance with all CEMS requirements.

Figure 1, which depicts the agency's "Review and Use of CEMS Data," should facilitate the reader's understanding of the guidance.

The major objective of this guidance is to assist Regional Offices in proceeding expeditiously, and in a nationally consistent manner, with the review and follow-up of EER data from NSPS Subpart D and other source categories where the monitoring system is not the compliance method. The guidance intentionally permits a fair measure of flexibility in order to allow each agency to optimize its EER program implementation.

The guidance suggests that with the exception of Phases 1 and 2 of the EER analysis, the results of the agency's review of EERs are best handled in the same manner as any other surveillance data. In short, such data is conceptially similar to agency receipt of information such as a citizen's complaint, and therefore should be integrated directly into an agency's traditional surveillance/compliance program at a similar point in that process. In the situation where the agency has an ongoing enforcement action or case development against a source, the agency should consider adding potential CEMS violations or data to the case.

Experience has shown that the three most important areas for agencies to apply their CEMS program resources are in: (a) inventory development; (b) determination of source compliance with CEMS installation and operating requirements; and (c) review of EERs and Agency follow-up. It is recognized that between the initial operation of the CEMS and the submittal of an EER there are a number of intermediate activities which a source is required to perform, such as to demonstrate achievement of the performance specifications. However, by emphasizing these three areas of the EER program, the agency can make it clear to the source that the agency is interested in minimizing emissions through the source's proper operation and maintenance of its process and control systems. Although the agency needs to receive valid data, it is the source's responsibility to take action to assure the quality of the data. Therefore, the degree of the agency's involvement in the intermediary steps needs to be balanced against a more effective review and use of the EERs.

The guidance suggests that agencies initiate a three-phase EER review and follow-up program concurrently with the development of a thorough inventory of CEMS-affected sources and the determination of the compliance status of these sources with CEMS installation and operating requirements. Absence of a complete inventory should not preclude use of data presently available.

Although the subject technical guidance provides many of the details on how to implement an EER program, the comments received on the draft document indicated that additional, more specific technical information would be very helpful. Such information will be included in a forthcoming EER Users Handbook, to be issued in FY 1985.

II. Inventory Development and Determination of Source Compliance with CEMS Installation and Operating Requirements

As noted previously, inventory development and determination of source compliance with CEMS installation and initial operating requirements (§60.13(b)), though preliminary steps to an EER review, are two of the three most important activities an agency should implement when beginning its CEMS program. Upgrading of an agency's current inventory is important, but doesn't have to be completed before the agency begins to determine the compliance status of sources in its current inventory with CEMS installation and initial operating requirements or establishes a program to utilize available EERs.

Although such determinations are important because the timing of initial CEMS operation determines when the initial EER had to be submitted, experience shows that an agency can effectively begin to evaluate and follow up on EER data before it completes either the inventory or the compliance determinations.

To the extent that the agency is not certain that its CEMS inventory is current and complete, it should upgrade its inventory. There are a number of possible resources that may be useful in carrying out this task. They include:

- the current CDS and the CEMS Subset;
- the NSPS Subpart D CEMS regulations;
- "Power Directory-1983 - An Environmental Directory of United States Steam Electric Power Plants", by the Edison Electric Institute; and
- various types of State and Federal agency records (e.g., inspection and test observation reports, recent background reports associated with the development of the NSPS Subpart D (revision), Da and Db).

III. Excess Emission Report Analysis

The third of the three most important elements of CEMS program implementation is excess emission report analysis. (This document delays addressing any CEMS requirements dealing with activities which chronologically occur between initial operation of the monitor and source submission of EERs until after discussing EER review and follow-up procedures. Such information can be found in Section VI of the guidance).

As per §60.7, thirty days following the first calendar quarter during which the source installed and began operating its CEMS, it is required to submit its first EER to the agency. Thus, a source must submit EERs even if its monitor has not undergone or passed a Performance Specifications Test (PST). If the agency is not currently receiving EERs, it should request all of its CEMS-affected sources to submit them.

Experience indicates that once the CEMS is installed and operational, agency insistence on: (a) timely submission of the EER; (b) review and follow up of the data; and (c) discussion of the results with the source, provides a great deal of motivation for the source to operate and use its CEMS to minimize its emissions. Therefore, it is essential for the agency with primary EER responsibility to obtain, review, and follow up on the most recent EER from every source required to install CEMS.

The recommended analysis and follow up to the source-submitted EER is presented as a three-phase process in this guidance as follows:

- Phase 1 - initial review and summarization of EER data;
- Phase 2 - confirmation of Phase 1 results, targeting of sources for follow-up, and data input to the CEMS Subset of the CDS; and
- Phase 3 - follow-up comparison of CEMS data and other emission data, and potential recommendations for additional testing or compliance/enforcement actions.

All EERs must be subjected to Phase 1 and Phase 2 evaluations. Evaluations performed during these two phases are unique to CEMS data. Phase 3 of the EER program should represent a conventional agency follow-up to data which have identified a possible violator.

Experience has shown that each EER should be processed "sequentially" as it is received, as the EERs usually arrive at the agency individually and as they are usually assigned to different case engineers. Also, it appears to be most beneficial for the agency to enter the new compliance data into its CDS at major milestones during the 3 phases.

The phases are described in more detail below.

A) Phase 1 - Screening Assessment and Summarization of the Data

During the Phase 1 evaluation, the reviewer is to perform a preliminary evaluation of the data and to summarize the data into specific categories for subsequent entry into the CEMS Subset of the CDS. A few Regional Offices have found that this can be very effectively done by para-professionals or technicians and that it takes about an hour per EER. The following paragraphs provide additional details about Phase 1 activities.

1) Assess the completeness and general acceptability of the EER.

One should perform a general assessment of the EER. Items 1 to 5 on the "EER Reviewer's Checklist" are provided in Appendix 1 for the reader's convenience in completing this activity. Such an assessment should compare the EER with the following requirements excerpted from §60.7. While each item is required, it is important to remember that the key to the review and use of EERs is to obtain quickly sufficient data to determine the adequacy of a source's operation of its emission control system and to try to motivate sources to minimize their emissions and to remain in compliance.

(a) The source should submit EERs as follows:1/

(1) Within 30 days after the end of each calendar quarter, submit a written report of: (a) excess emissions (as defined in the applicable Subpart); and (b) monitor system performance.

(b) An EER is required every quarter, even if no excess emissions were recorded or if the CEMS had no downtime, and was not repaired or modified.

1/"source" includes NSPS Subpart Da units which must submit opacity monitoring EERs

(c) Each EER shall include:

(1) The magnitude (averaged during the excess period, including any conversion factor(s) used), date, start and ending times, nature, cause and corrective action taken for each excess emission; specific identification of each period of excess that occurred during startups, shutdowns and malfunctions of the affected facility; the nature and cause (if known) of the malfunctions and corrective actions taken.

(2) The date, start and ending times of each instance when the CEMS was inoperative (except for zero and span checks, etc.), and description of the nature, cause and corrective action taken for each such period.

(3) The number of days in a quarter (or percent of time) when the process was operating versus percent of time when the CEMS was operating and percent of time CEMS was not operating ((2) above) 2/

2) Summarize the Emission and Monitor Performance Data

Before the EER data can be entered into the CEMS Subset and effectively used, the data must be in a categorized and summarized form. To the extent that the EER data are not categorized and summarized by the sources in a manner consistent with the definitions, as shown in items 4 and 5 of Appendix 1 (e.g., startup, shutdown, process problems, monitors and non-monitor equipment problems), the agency reviewer must summarize the data manually. The four key parameters which must be summarized by reason code, are:

(a) total number of exceedance incidents;
(b) total duration of time that the standard was exceeded;
(c) total number of CEMS downtime incidents; and
(d) total duration of each CEMS's downtimes.

2/ Note: This item is only implicitly specified in §60.7. However, it is essential for agencies to know the quantity of CEMS downtime while the process was operating in order to determine the adequacy of the source's CEMS performance and the representability of the excess emission data reported in the EER.

Suggested reason codes and their definitions are presented in Sections VI and VII of Appendix 2. It should be noted, however, that these definitions are not official and are still being considered by EPA as part of a possible regulatory revision intended to obtain standardized summaries directly from the sources.

It is recognized that agency summarization of the EER data is the most resource intensive element of the Phase 1 analysis. However, it's completion is critical to the effective use of EERs.

B) Phase 2 - Verification of Phase 1 Results, Targeting of Sources and Data Entry into the Subset

The Phase 2 EER activities should be performed by an experienced compliance person. To date, agencies have relied upon a professional who was familiar with reviewing other compliance data. This part of the EER assessment is more complex than Phase 1 in that it involves: 1) completion of an internal check and concurrence with the Phase 1 results; 2) comparison of the EER data with agency targeting criteria (for example, see Section IV), and in some instances includes recommendations for additional agency evaluation of source-related data; and 3) supervision of EER data entry into the CEMS Subset of the CDS. Completion of these activities should be documented in items 6 and 7 of Appendix 1, for example, during Phase 2. Current experience indicates that these activities can be completed within about one hour. The following paragraphs delineate additional details about Phase 2.

1) Verification and Concurrence with Phase 1 Results

The Phase 2 reviewer should check the data analysis and summarization completed during Phase 1 in sufficient detail to permit the reviewer to concur with the results. It is expected that spot-checking of the Phase 1 results will usually suffice.

2) Comparison of EER Data with Targeting Criteria and Possible Recommendation of Additional Agency Evaluation of Source Data

Once the Phase 1 EER summary results have been concurred with, they should be compared to the agency's targeting criteria (see sample list of criteria and follow-up actions in Section IV). For instance, if the source reported exceeding the opacity standard for 2-5% of its operating time during the quarter, the agency might target it for a follow-up action, such as sending the source a letter requiring it to reduce its excesses by the next quarter. A second example is shown in Figure 2. There one can see that the relatively poor emission performance of three sources virtually "leaps off the page" compared to others in the same State. These three sources should be targeted for agency follow-up action.

One would expect that the EER review process would initially find most source's EER data indicating compliance, and therefore not causing the source to be targeted. However, as a "quality assurance" check on the agency's EER review procedures, and to verify the data, to the extent that resources permit, the agency should randomly target a few of these apparently complying sources for follow-up action.

3) Enter the Summarized Data and Notification to the Source

At least once a quarter, and more frequently if appropriate, each set of summarized data should be entered into the CEMS Subset of the CDS. Furthermore, it is essential to provide the source with a timely notification of the results of the agency's EER review (both positive and negative). This will help to promote better emission control and monitoring of operations by the source because they will be aware that the data are being scrutinized and will not want their EERs to trigger an agency follow-up activity such as an inspection or stack test. Furthermore, providing the results to the sources will improve the credibility of the EER process with the source.

C) Phase 3 - Conduct Agency Follow-up Activities

The Phase 3 analysis and follow-up will likely be performed on a relatively small fraction of an agency's sources, and is in general more comprehensive and more sophisticated than the activities performed in Phases 1 and 2. Once a specific source has been targeted as a possible violator (during Phase 2), the agency should proceed as it normally would whenever it has reason to believe that a source may be out of compliance. As with any conventional follow-up activity, Phase 3 may be performed in the office or in the field. It may include activities such as comparison of the EER results with other available data (e.g., malfunction and inspection reports, stack test results, and EER data), and compliance activities which result in the acquisition of new data. Furthermore, a Phase 3 assessment may result in a recommendation for initiation of an enforcement action. Therefore, it is suggested that a professional on the agency's compliance staff perform these activities.

The Phase 3 activities may result in one of the following:

- a determination that an "apparently complying" source, based upon conventional surveillance/ compliance monitoring data, was actually in violation of one or more regulations; or

- a determination that a source appearing to be a violator, based upon CEMS/EER data, was actually in compliance.

Regardless of the outcome, the agency's confidence in its compliance data for that source will be measurably enhanced.

IV. Example Targeting Criteria and Recommended Agency Follow-up Actions

The following example criteria and follow-up actions are based on a limited amount of Regional Office experience, mostly with EERs from large boilers. They are intentionally non-specific in order to provide a framework or "starting point" for each Regional Office to formulate its own criteria and recommended follow-up actions (in consultation with its States, as appropriate) specifically suited to its unique set of circumstances. It is suggested that an agency consider, among other parameters, the following things when developing its criteria for targeting sources for follow-up actions:

- staff size and expertise relative to the size and complexity of its responsibilities;
- availability of external resources (cooperating agencies, contractor assistance);
- current level and quality of agency knowledge of its source's emissions, control systems, processes, fuel alternatives, etc.;
- compliance and malfunction history of its sources;
- relative priority of the sources and the pollutants to be addressed by criteria; and
- technical and regulatory tools, limitations, etc. available to the agency.

Furthermore, it is appropriate for each agency to review its criteria and follow-up plans annually and to revise them, as necessary. By the end of FY 1985, EPA intends to review agency experience with EERs and this guidance, and to provide additional details and examples of criteria in an "EER Users Handbook".

A) General Comments on the Example Criteria

The following additional comments are relevant to understanding and using the example "Criteria for Action" and "Recommended Follow-up Actions" provided on the following pages.

- Of the three types of examples provided (i.e., Emission Performance, CEMS Performance and Administrative Problems), "Emissions Performance" is clearly the most important. However, the urgency and severity of follow-up to CEMS or administrative problems should be controlled by the degree to which the CEMS or EER deficiency itself inhibites interpretation and use of the data relating to emission exceedances. For example, major gaps in data, or gaps in data from a problem source, would warrant the strongest enforcement response. On the other hand, format problems presenting only a minor inconvenience to the reviewer would warrant a less stringent response.

- It is recommended that each agency begin its EER program with fairly simple, quantitative criteria and simple qualitative follow-up action recommendations. Later, as experience dictates, each agency might choose to establish more sophisticated and qualitative criteria.

- Whenever a detailed review of exceedances occurs, a similar review of CEMS downtime should also be performed. Check next quarter (whether or not the threshold point is reached) to determine whether similar problems recurred and whether the source's previous corrective action was acceptable.

- Emission and monitoring criteria for gaseous emissions, comparable to the opacity examples, should be developed by each agency. There are probably enough data currently available for agencies to develop such criteria.

- The example criteria provided are not intended to suggest that an agency's criteria should or could all be precisely definable (e.g., 2% monitor downtime). The criteria provided were for illustrative purposes. For instance, perhaps a source's normal emission and monitor performance should also be taken into account in the criteria.

- Because this document is primarily based on agency experience with large power boilers, EER data from other types of sources should be analyzed sufficiently in order to determine appropriate targeting criteria. An annual review of these criteria should be conducted to assess the need for modifications.

- The operating experience of opacity and SO_2 monitoring systems should be reviewed annually to determine whether different action threshold points are justified.
- Approximately a year of operating experience with NO_x and TRS monitoring systems (high quality historical data is acceptable) should be evaluated when determining specific threshold points for these CEMS.

Example Criteria and Recommended Follow-Up Actions

(Opacity Emission Performance Problems)

Criteria for Action*	Recommended Follow-Up Actions
Emissions below both high and low threshold points.	Conduct a random "quality assurance" review of some EERs for exceedances each quarter.
In the first quarter after problem was noted, emissions were below the low threshold point.	Check next quarter to determine whether or not similar problems have recurred and if corrective action was acceptable.
(a) Total duration of exceedances exceeds the low threshold point selected by the agency for the source or source category (two percent of the total source operating and monitored time, and certain other factors, have been used successfully by Region V for certain power plants). (b) Total duration is less than the agency's low threshold point, but there is a significant increase in the number or duration of exceedances. (c) Detailed examination of the EER discloses unacceptable types of exceedances or reasons for exceedances.	(a), (b), (c), Initiate the lowest level of agency action (e.g., a more thorough analysis ot the EER by an engineer). This may result in a warning by telephone or letter being sent to the source relating to its excess emissions.

- Continued on next page -

*These were placed in a "relatively" ascending order of severity/importance

Example Criteria and Recommended Follow-Up Actions

(Opacity Emission Performance Problems) - Continued

Criteria for Action*	Recommended Follow-Up Actions
(a) Total duration** exceeds a high threshold point (five percent of the total source operating and monitored time and certain other factors, have been used successfully by Region V for certain power plants). (b) Total duration is less than this high threshold point, but there has been a significant increase in the number or duration of exceedances.	(a),(b) Initiate a moderate level of agency action (e.g., a more thorough analysis of the EER and other compliance information by an engineer/technician and compliance staff). This may result in additional surveillance activity or a conference with the source. An immediate inquiry into specific exceedances should be conducted.
Recurrence of same or similar problems from prior reporting periods.	Proceed with more rigorous follow-up action. This should also depend on the severity of excess emissions and other relevant targeting factors (e.g., size, compliance history)

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*These were placed in a "relatively" ascending order of severity/importance

**Summary data from EERs or reviewer's checklist (see Appendix 1)

Example Criteria and Recommended Follow-Up Actions
Opacity and SO_2

(CEMS Performance Problems)

Criteria for Action *	Recommended Follow-Up Actions
"Random" EER follow-up review done on EER (e.g., when CEMS downtime does not exceed the high or low threshold points) to determine whether there was questionable CEMS "downtime".	Regardless of results, the source should at least be notified that a follow-up review was performed. Perhaps a telephone report would suffice unless a major problem was identified.
CEMS downtime exceeds the low threshold ("W"-opacity or "X"-SO_2 percent) point.	The specific reasons should be examined and if it is determined that such performance is unacceptable, the source should be directed to take corrective action. The source should be notified (by telephone should suffice) of the follow-up review regardless of the results.
CEMS is out of service for more than the high threshold ("Y"-opacity or "Z"-SO_2) percent of the total operating time of the source during any given quarter.	Similar to above, but a written report would be appropriate.
Excessive CEMS downtime reported for a second quarter; or exceedance "caused" by CEMS	Conduct an inspection and/or require the source to repeat its demonstration of achievement of the CEMS performance specifications.
Continuing problems with CEMS for at least three quarters	Proceed with more rigorous follow-up action. The urgency and severity of enforcement would be controlled in part by the degree to which CEMS problems interfere with effective source surveillance. Other targeting factors, particularly excess emission performance should also be considered.

*These have been placed in a "relatively" ascending order of severity/importance

Example Criteria and Recommended Follow-Up Actions

(Administrative Problems With EERs)

Criteria for Action*	Recommended Follow-Up Actions
EER contains one or more reporting deficiencies	In every case, call or send a written critique of the EER relative to EER requirements. Require corrective action by next quarter.
EER not received by 45 days after quarter ends	In every case, call or write the source requiring EER submittal within 15 days.
EER contains the same or similar deficiencies for a second time	Telephone follow-up, confirmed by letter, stating deficiencies and requiring corrective action in the next quarterly report.
EER contains the same or similar deficiencies a third time	Proceed with more rigorous follow-up tha the previous time (depending in part on degree these problems impede agency's ability to conduct source surveillance).

*These have been placed in a "relatively" ascending order of severity/importance

V. Entry of EER Data into the CEMS Subset of CDS

Keeping the agency's data base current is very important. Particular emphasis is required with respect to the CEMS - related data. Keeping the data system current will not only help a specific agency to manage its resources and keep its sources in compliance, but will also add significantly to the rather limited data base available to other agencies. This data will provide very important support for activities such as establishing criteria for targeting sources, deciding against whom/when to take enforcement actions, etc. In addition, what is recorded by the end of a quarter will represent the agency's baseline for implementing the program in the next quarter. Lastly, the historic record created by several quarters of data is useful for time-series and trend analyses (e.g., how much SO_2 is emitted from specific sources and during specific atmospheric conditions).

Information concerning specific data requirements and entry procedures are presented in the CEMS Subset Users Guide. In addition, training opportunities concerning use of the Subset are available.

VI. Review of CEMS Data Quality and Source Compliance with All CEMS Requirements

As discussed in Section I of this guidance, it is recommended that an agency begin implementing its CEMS/EER program by primarily concentrating on: (a) inventory development; (b) determination of source compliance with CEMS installation and operating requirements; and (c) review of EERs and follow-ups. The activities addressed in this guidance were purposefully ordered in a manner consistent with that recommendation. Therefore, the activities which chronologically may occur at a source between the initial operation of the CEMS and source submission of EERs (e.g., performance specification test) have yet to be addressed. This Section addresses those items.

Whenever the agency chooses to evaluate the data quality and a source's general CEMS compliance, experience indicates that this can be accomplished most effectively by determining each source's compliance with all of the CEMS requirements, rather than through sequential assessment of the compliance of a number of sources with a single CEMS provision. Thus, by reviewing a complete set of data from a single source (e.g., inspection and performance test reports, EERs), it is easier to develop a more complete picture of the quality of a source's emission and monitoring performance, as well as to detect any inconsistencies within the data.

The agency should document (see Appendix 3 for an example checklist) each source's general compliance with the following applicable CEMS requirements, summarized below for NSPS sources (similar requirements may exist for SIP and PSD sources):

A). The source shall install 3/ and operate a CEMS prior to conducting the initial performance test - §60.13(b),

(1) Note - although some coal-fired, non-FGD, Subpart D - sources have not installed SO_2 CEMS while they await EPA's resolution of the "reserved" §60.45(d) paragraph, these sources have always been required to implement the opacity and NO_x CEMS requirements contained in §60.13(b).

B). The source shall locate the CEMS such that the measurements are representative of emissions - §60.13(f).

C). The source, after giving the agency at least 30 days notice, shall demonstrate achievement of the performance specifications through a performance specifications test (PST) - §60.13(c).

(1) A PST (for a CEMS of the same pollutant) is required during, or within 30 days after each performance test required under §60.8. If a source performance test was done without obtaining concurrent CEMS data, the test should be repeated, preferably concurrently with the PST.

(2) Note -- an initial PST is required for all CEMS, even those for which contracts were signed before September 11, 1974 - §60.13(c)(3).

(3) The source is required to submit the results (demonstrating achievement of the performance specifications) of such tests to the agency within 60 days after completion of the PST.

D). The source shall perform quality assurance checks specified by the Administrator, such as at least daily zero and span drift checks and the adjustments contained in §60.13(d).

3/ See Appendix 4 for a list of CEMS-affected NSPS source categories and their specific CEMS requirements.

E). The source shall demonstrate that except for monitoring system breakdowns, calibrations, etc., the CEMS are capable of continuous operation and can meet minimum cycle times as follows:

(1) Opacity CEMS - sample and analyze opacity once in each successive 10-second period - §60.13(e)(1).

(2) NO_X, SO_2, CO_2 and O_2 CEMS - sample, analyze and record the parameters, once in each successive 15-minute period - §60.13(e)(2).

F). The source shall perform data reduction as follows:

(1) Opacity CEMS - reduction of all data to 6-minute averages (based on at least 36 equally spaced data points per 6 minutes) - §60.13(h).

(2) Gas CEMS - reduction of all data to 1-hour averages (based on at least 4 equally spaced data points per hour) - §60.13(h).

G). The source shall maintain (for at least two years) copies of all CEMS performance evaluation and quality assurance/control data, emission data, performance test data, CEMS and control system maintenance records, etc. - §60.7(b) and (d).

H). The source shall submit quarterly EERs to EPA and (if delegated) to the State agency - (§60.4(b)).

Please refer to 40CFR Part 60 for the specific language on each of these requirements.

VII. Contacts for Future Technical Assistance, Comments, and Additional Copies of the Guidance

As agencies implement their CEMS/EER program, EPA anticipates that there may be a continuing need for technical assistance in implementing the guidance, answering technical questions, and receiving comments and suggestions. Additional copies of the guidance may also be needed.

Please direct these technical questions and requests to Louis Paley at (202) 382-2835; or for CDS related items, please contact Howard Wright at (202) 382-2826; or write to either Mr. Paley or Mr. Wright at -

U.S. EPA
Stationary Source Compliance Division (EN-341)
401 M Street, S.W.
Washington, D.C. 20460

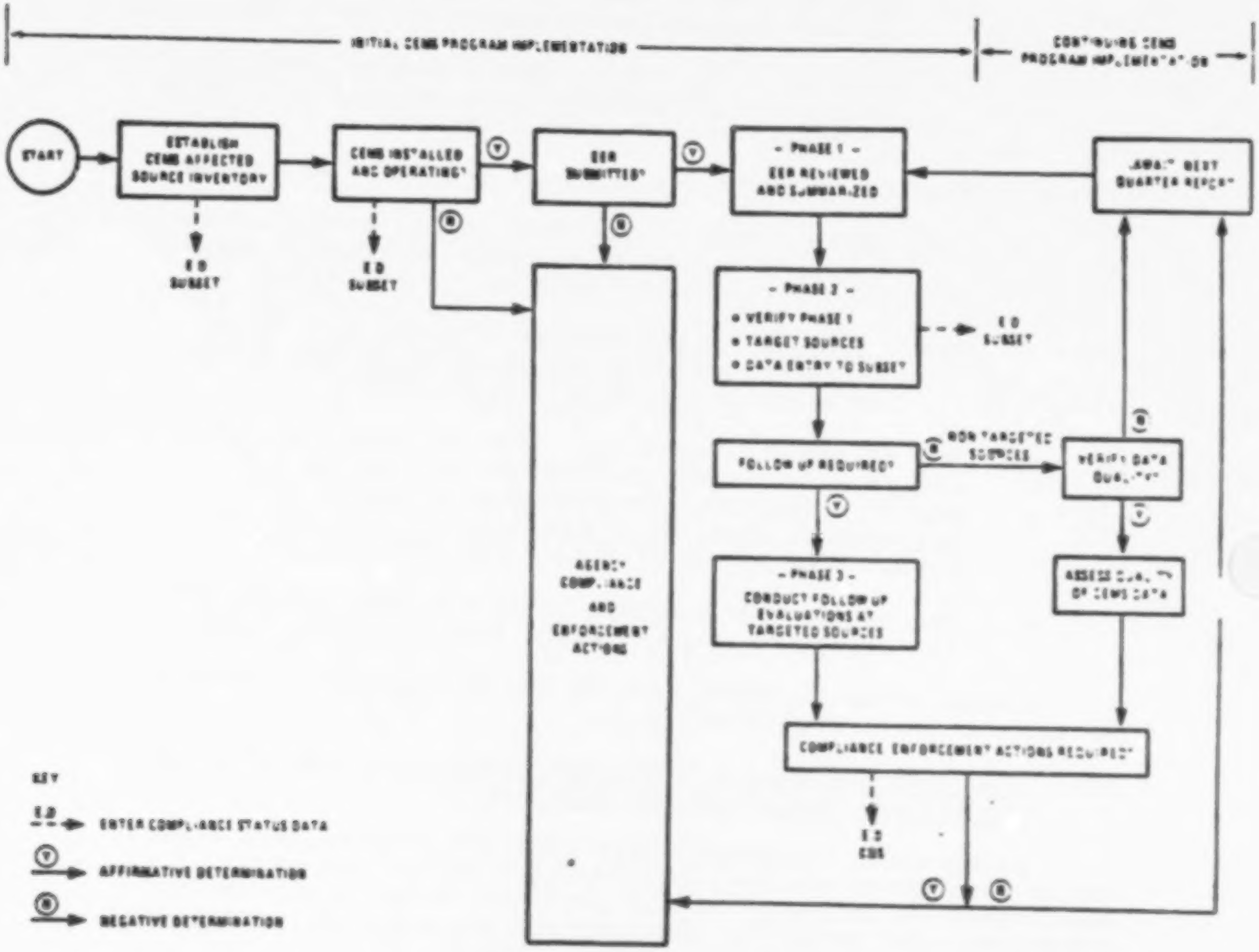
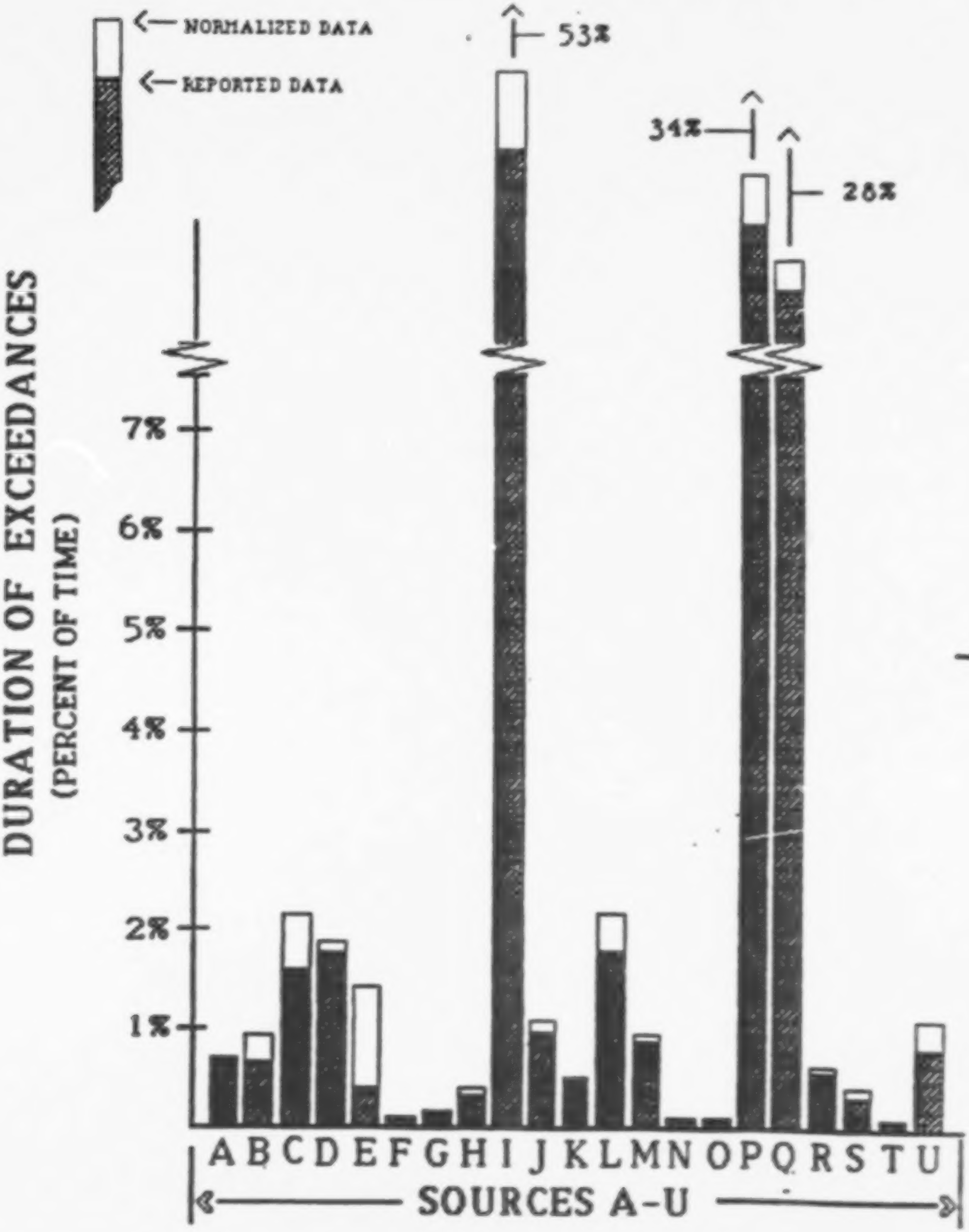

INITIAL CEMS PROGRAM IMPLEMENTATION
CONTINUING CEMS PROGRAM IMPLEMENTATION
START
ESTABLISH CEMS AFFECTED SOURCE INVENTORY
E D SUBSET
CEMS INSTALLED AND OPERATING?
Y
N
E D SUBSET
EER SUBMITTED?
Y
N
- PHASE 1 - EER REVIEWED AND SUMMARIZED
AWAIT NEXT QUARTER REPORT
- PHASE 2 -
• VERIFY PHASE 1
• TARGET SOURCES
• DATA ENTRY TO SUBSET
E D SUBSET
FOLLOW UP REQUIRED?
N
NON TARGETED SOURCES
VERIFY DATA QUALITY?
N
Y
Y
- PHASE 3 - CONDUCT FOLLOW UP EVALUATIONS AT TARGETED SOURCES
ASSESS QUALITY OF CEMS DATA
AGENCY COMPLIANCE AND ENFORCEMENT ACTIONS
COMPLIANCE ENFORCEMENT ACTIONS REQUIRED?
E D CDS
Y
N
KEY
E D
ENTER COMPLIANCE STATUS DATA
Y
AFFIRMATIVE DETERMINATION
N
NEGATIVE DETERMINATION

FIGURE 1. AGENCY'S REVIEW AND USE OF CEMS DATA

Figure 2 - Example of Sources Which
Should be Targeted for Follow-up Action



APPENDIX A - 1

Sample Form
10/3/84

EER REVIEWER'S CHECKLIST

(40 C.F.R. Part 60, Subpart D)

APPENDIX A-1

Phase 1 Review ______________ Name ______________ Date
Phase 2 Review/ Subset Data Entry ______________ Name ______________ Date
Phase 3 Review/ CDS Action Entry ______________ Name ______________ Date

1. Company ______________ ______________ Quarter ______________ Year
Plant/Unit ______________

2. Timeliness (Must be postmarked within 30 days of quarter)
(a) Date Postmarked ______________ (b) Days Late ______________

3. Completeness[1] (For EERs which cover multiple monitors, specify monitor when noting problem.)

	No Problem	Problem (Describe)
Excess Emissions (EEs) Information		
(a) Data Reported in Units of Applicable Standards		
(b) Date and Time of Commencement		
(c) Date and Time of Completion		
(d) Magnitude		
(e) Conversion Factors Used		
(f) Identification of EEs Caused by Start-up, Shutdown, or Malfunction		
(g) Nature and Cause of Malfunction		
(h) Malfunction Corrective Action or Preventive Measures		
(i) Affirmative Statement of No EEs		
CEMS Performance Information		
(a) Date and Time Identifying Specific Periods During Which CEMS Was Inoperative		
(b) Nature of System Repairs or Adjustments		
(c) Affirmative Statement of No Period of Downtime, Repair or Adjustment (include no CEMS modifications)		
Source Operating Time[1]		

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[1] A revision of reporting requirements to require a summarization of data, categorization of excess emissions and CEMS problems according to new uniform categories, and reporting of source operating time is now under consideration. Although not specifically required, source operating time has been included on this sample form because it is necessary to allow for data analysis included in this checklist.

4. Data Summary for Opacity EERs

(a) Opacity CEMS Performance

Causes of CEMS Downtime*	Number of Incidents	Total Downtime (Hours)	Percent Unavailability[2]
Monitor Equipment Malfunctions			%
Non-monitor CEMS Equipment Malfunctions (e.g., computer, data recorder, etc.)			%
Calibration/QA			%
Other Known Causes			%
Unknown Causes			%
Total			%

[2] "Percent unavailability" is calculated by the following formulas:

CEMS Downtime[4] During Source Operating Time (Hours) ÷ Source Operating Time (Hours) x 100 = Percent Unavailability

Where:

Time in Quarter (Hours) — Source Downtime (Hours) = Source Operating Time (Hours)

(b) Opacity Emissions Performance (Data Reported as Consecutive 6-minute Periods; Calculate Duration in Hours to Nearest Tenth)

Causes of Excess Emissions*	Number of Incidents	Total Duration (Hours)	Percent of Operating Time (Normalized)[3]
Process Start-up/Shutdown			%
Sootblowing			%
Control Equipment Failures			%
Process Problems			%
Fuel Problems			%
Other Known Problems			%
Unknown Causes			%
Total			%

[3] "Percent of Operating Time (Normalized)" is calculated by dividing Total Duration by the following Normalization Factor, then multiplying the result by 100.

Time in Quarter (Hours)		—	Source Downtime (Hours)		—	CEMS Downtime[4] During Source Operating Time (Hours)		=	Normalization Factor	

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[4] Assume all reported CEMS downtime occurs during periods of source operation unless explicitly stated.

* Proposed definitions for these categories appear in "Technical Guidance on Agency Review of Excess Emission Reports and Follow-up Actions," Appendix 3.

5. Data Summary for SO_2 or NO_x EERs (Use Separate Forms for Each Monitor)

Type of Pollutant ______

(a) CEMS Performance (Includes Aggregate Downtime for Pollutant and Diluent Monitors)

Causes of CEMS Downtime*	Number of Incidents	Total Downtime (Hours)	Percent Unavailability[2]
Monitor Equipment Malfunctions			%
Non-monitor CEMS Equipment Malfunctions (e.g., computer, data recorder, etc.)			%
Calibration/QA			%
Other Known Causes			%
Unknown Causes			%
Total			%

[2] "Percent unavailability" is calculated by the following formulas:

CEMS Downtime[4] During Source Operating Time (Hours) ÷ Source Operating Time (Hours) x 100 = Percent Unavailability

Where:

Time in Quarter (Hours) − Source Downtime (Hours) = Source Operating Time (Hours)

(b) EMISSIONS PERFORMANCE (Data Reported as Consecutive 3-Hour Periods)

Causes of Excess Emissions*	Number of Incidents	Total Duration (Hours)	Percent of Operating Time (Normalized)[3]
Control Equipment Failures			%
Process Problems			%
Fuel Problems			%
Other Known Problems			%
Unknown Causes			%
Total			%

[3] "Percent of Operating Time (Normalized)" is calculated by dividing Total Duration by the following normalization factor, then multiplying the result by 100.

Time in Quarter (Hours) ☐ − Source Downtime (Hours) ☐ − CEMS Downtime[4] During Source Operating Time (Hours) ☐ = Normalization Factor ☐

[4] Assume all reported CEMS downtime occurs during periods of source operation unless explicitly stated.

* Proposed definitions for these categories appear in "Technical Guidance on Agency Review of Excess Emission Reports and Follow-up Actions," Appendix 3.

6. EER Data Summary and CDS/CEM Data Coding Checked: ______________________ (Name) ________ (Date)
(Also sign second line, page 1 of Checklist.)

7. Should this EER be Reviewed for Possible Agency Follow-up? (Compare EER data with criteria for follow-up.)

Yes/No: ______________________

Comments: ______________________

(Indicate type of monitor(s) and problem(s), applicable follow-up criteria and possible follow-up.)

8. Recommendations for Follow-up Activity Based on Detailed Review of EER and Other Compliance Information:
(Indicate recommended agency action with check(s) and/or appropriate letter(s) and comments below.)

Follow-up Action	Emissions Problems			CEMS Problems			Time-liness	Complete-ness
	Opacity	SO_2	NO_x	Opacity	SO_2	NO_x		
No Action								
Target Source for Detailed EER Review Next Quarter								
Contact State								
Defer to State								
Contact Source a. Telephone source b. Meet with source c. Request add. information d. Request add. reporting e. Request corrective action f. Request add. testing g. Request alt. monitoring h. Request specific O&M/QA procedures i. Other (Specify)								
Target for Additional Surveillance a. VEO b. LIDAR c. Inspection d. Audit e. Compliance test f. Other (Specify)								
Enforcement a. Warning Letter b. § 113 NOV c. § 113 Compliance Order d. § 120 Notice of Noncompliance e. Initiate civil action f. Other (Specify)								

Comments: ______________________

____

9. Action Coded and Entered in CDS: ______________________ (Name) ________ (Date)
(Also sign third line, page 1 of Checklist.)

APPENDIX A - 2

APPENDIX A-2

Summary of Agency Survey of Recommendations for Revising EER Requirements and for Using EERS

I. INTRODUCTION

The following recommendations are the result of a study completed in March, 1984, which identified and evaluated appropriate elements of an agency EER review and follow-up program keyed to surveillance targeting. It included a survey of existing Federal and State EER programs and the identification and evaluation of major problems and constraints that inhibit the effective implementation of those programs. It also included the design of optional review procedures and a test review of selected EERS in two States. Following this review, project participants met with State and EPA regional representatives to discuss the advantages and disadvantages of specific review options, and to identify areas in which specific EPA guidance is needed. Recommendations reflect a perceived need for certain EPA action along with a determination that such action is feasible.

II. AN EER SUMMARY SHOULD BE REQUIRED

(A) Explanation

EPA should require that a one-page EER summary be prepared by each source required to submit an EER for EPA review. This summary should be prepared according to a uniform format, applicable nationwide, and steps should be taken to ensure consistency of content. Until at least the source demonstrates that it has a high-quality emission control and CEM program, the summary should be submitted in addition to, and not in lieu of, the "traditional" report of the individual exceedances and other reportable incidents. In the cases where only summary reports are subsequently required, the agency should periodically audit the source's complete EER.

(B) Major Considerations

- It will facilitate a quarterly review of EERS by Agency Staff. An EER summary will facilitate EER review by substantially shortening the amount of time necessary to screen the EER for a determination of the need for follow-up. This is especially useful for an agency which may have a legitimate shortage of staff time to commit to EER review, and which is reviewing a substantial volume of EERs reporting a substantial number of exceedances or monitor problems.

- It will facilitate a comparative analysis of EER data. An EER summary should provide an effective basis for tracking the overall performance of a source from quarter-to-quarter and identifying both gradual and extraordinary changes in emissions over time. This tracking might be performed for every source submitting EERs or only for certain sources that have been targeted for more intensive surveillance.

- It will not result in a significant new burden on sources currently filing EERs that comply with NSPS requirements. It is believed that preparation of a summary will impose only a negligible burden on most sources with computer analysis capability, since in most cases only a minor modification in software will be required. The costs will be more significant in cases where the software is permanently installed or "hard-wired". In instances where excess emissions data is tablulated, analyzed and reported manually, summarization should still require only a minor additional effort compared to the total time spent in EER preparation.

- It should help some sources use the data for compliance management purposes. A summary should also provide the environmental control manager at sources who are not currently tracking EER trends a convenient tracking mechanism for internal control purposes.

- Submission of the summary without the underlying report. Some agency spokespersons have indicated a preference toward receiving just the summary, then requesting the underlying EER only if needed. The recommended approach is to receive the entire (current) EER for some minimum period, then, the agency might reduce the reporting requirement for sources with clearly excellent records, subject to periodic EER audits.

- The preferred mechanism for establishing this requirement is through an amendment to the reporting requirements in 40 C.F.R. § 60.7. This approach is preferred over all alternative mechanisms (e.g., the use of individual § 114 letters or the SEA process), by agency and source personnel alike. The consistency and formality of rulemaking provides significant support to the requirement and reduces the probability of, or reticence on the part of, agency and industry personnel to make the change.

- The recommended summary will require changes in how the underlying report is prepared at most facilities. There are basic differences in EER content from State to State, and from source to source in many of the States. No survey was conducted to determine the precise nature of the impact of these changes on specific sources. State representatives generally agreed, however, that the impact would be minor and not unexpected. As indicated by agency staff in Minnesota and Colorado, most sources are accustomed to receiving agency requests for information according to formats that periodically change - this has become an ordinary aspect of doing business with the government. Although some objection is encountered, there are usually no serious confrontations where, as in the current situation, the reasons for the change are logical and not perceived to be artitrary, and the net effect is to create a more efficient, uniform and stable reporting program.

III. THE EER SUMMARY SHOULD INCLUDE THE TOTAL NUMBER OF EXCESS EMISSION INCIDENTS AND THE TOTAL DURATION OF ALL EXCESS EMISSIONS

(A) Explanation

The number of incidents should include each continuous time period in which an excess emission occurs, and the total duration should include the sum of the time periods associated with all incidents. Periods during which a permissible exception may apply should be reported as any other excess emission.

(B) Major Considerations

- Among available options, this appears to be the most useful and efficient. Other summary options are either not as effective in terms of providing a useful targeting aid or add a level of complexity without a corresponding benefit. These options include:

  -- Incidents only. This approach is not as useful because the number of incidents alone will not always provide a fair indication of the magnitude of control problems at the facility; incidents may be expected to vary in duration.

- -- Incidents and duration. This is the recommended approach. The number of incidents will allow for quick evaluation of the frequency of excess emission problems at a facility; and the total duration will allow for a quick evaluation of the overall magnitude of the problems. Incidents are defined in terms of a continuous period of an excess emission because NSPS regulations require reporting on this basis. This does not account for the possibility that a single control problem will be summarized as several incidents (if the problem results in intermittent exceedances); however, the extent of any specific control problem may be further ascertained by reviewing the underlying report. As such, consideration of the number of incidents will still be effective as a screening aid, since any bias that is introduced will usually exaggerate the number of incidents and therefore not tend to restrict further inquiry into the underlying report.

- -- Incidents and duration qualified by the severity of the exceedance. This approach takes into account the extent to which each reported exceedance actually exceeds the applicable standard and therefore provides a truer indication of the actual pollution associated with excess emissions during the quarter. However, as a screening mechanism it provides no significant benefit beyond screening simply on the basis of the number of incidents and the total duration of excess emissions. The simpler screening approach contains an assumption that all exceedances are significant; this can be verified, if necessary, by reviewing the underlying report.

o Current summary and analysis techniques do not usually track the frequency of excess emission incidents. Most, like EPA's CEM Subset of the CDS, look only at duration. Thus, a new review criterion will be introduced. It is believed that this is justified to ensure that sources with numerous short-term exceedances are not overlooked when targeting for EER follow-up.

- Periods during which an exception applies should not be excluded. The purpose of the summary is to aid in screening for further review and follow-up. For this reason no excess emission should be omitted on the basis of an independent source determination that it is excusable.

IV. THE EER SUMMARY SHOULD INCLUDE INFORMATION ALLOWING FOR APPROPRIATE NORMALIZATION OF REPORTED DATA

(A) Explanation

This information should be sufficient for agency staff to determine the total source operating time, the total CEMS operating time, and the precise degree of overlap (source operating time when the monitor is down and the monitor operating time when the source is down).

(B) Major Considerations

- A source with relatively few exceedances will not be overlooked for further evaluation, if emission data has not been obtained for a significant portion of the quarter. This will allow for the simplest meaningful determination of whether reported exceedances are significant in terms of the total source and monitoring operating time.

- What if the monitor is up but malfunctioning? Clearly this would affect the usability of the data in many circumstances. It is recommended where the facility feels that CEM performance has affected the quality of exceedance data that this be clearly indicated in the summary.

- A problem exists in the interpretation of opacity data that has been gathered during source downtime. Many agencies require that sources continue to record and report opacity data during a source outage. Sometimes there are significant opacity exceedances during these outages. It is recommended that this data be summarized separately, so that there is a consistent basis for comparison of uptime data from source to source.

- Further normalization is not considered warranted. It is possible to normalize the data further to account for production factors (e.g., megawatts produced during the reporting time period), control equipment performance parameters, and an ever-increasing level of detailed information that ultimately zeros in on the actual volume of particulate emissions represented by the recorded opacity, and a calculation of the severity of excess emissions during the quarter. It is felt that this additional level of detail is not warranted for the purpose of conducting a simple screening program. Individual agencies may want to require additional summarization to suit their own targeting needs.

V. THE EER SUMMARY SHOULD INCLUDE A BREAKDOWN BY POLLUTANT OF EXCESS EMISSION INCIDENTS AND DURATION WITHIN CERTAIN REASON CATEGORIES

(A) Explanation

Recommended categories include start-up/shutdown, soot-blowing, control equipment failure, process problems, fuel problems, other known causes (see definitions below), and unknown causes. The same format could be used for all EER pollutants: opacity, SO_2, NO_x, and TRS.

(B) Major Considerations

- A simple breakdown into general categories will allow for a more effective evaluation of the general types of problems experienced during a quarter at a particular facility. For example, excessive exceedances attributed to start-up and shutdown at a facility may require no further review of specific incidents noted in the underlying EER, and satisfactory follow-up may be limited to some form of off-site contact. Excessive exceedances attributed to equipment failure, on the other hand, may justify a more thorough review of the specific incidents and may ultimately warrant a site visit.

- The selected categories reflect the most common groups of reasons given for excess emissions. More precise groupings are possible, and are even preferred by many agencies (additional categories usually describe equipment and operator failures in greater detail and often include other categories designed to define excusable exceedances, e.g., excusable malfunctions and maintenance). For purposes of this guidance, however, it is recommended that a very simple selection be adopted as a minimum; then, if specific agencies want to require further summarization, they may do so independently.

- The recommended categories change and expand those currently summarized in the Subset. The "other known causes" category is needed to ensure that all excess emissions are included in the summary. The "fuel problems" category is needed for SO_2 emissions, since it is the most common reason for SO_2 exceedances. "Equipment failure" has been redefined as "control equipment failure" to allow for ease in distinquishing "process problems," which should be added as a new category. Adding these categories may inhibit the comparison of new summary data to old summary data in many instances (it is not clear how extensive this inhibition will be); however, this seems justified to ensure that future comparisons will be based on all of the data and will include the basic reasons for exceedances. At some future time EPA may wish to reevaluate the summary categories for specific pollutants or source categories and make changes that are appropriate in view of the actual experience.

- Potential inaccuracies due to source summarization. Some concern has been expressed that summary categories are not meaningful because either source operators do not really know the reason for an exceedance and simply put down what seems to be a convenient explanation or they cannot make the known reason fit into one of the available categories. Neither concern seems to be a valid reason for foregoing the proposed summarization. First, the small number and very general nature of the proposed reason categories should make the selection easier -- this may also be improved by adopting a uniform definition of each reason (the recommended reason categories are not considered to be controversial). Second, an "unknown" category is provided for persons who really do not know why the exceedance occurred (it is a criminal offense under § 114 of the Clean Air Act to intentionally misrepresent such data). Although there is some likelihood for error in categorization, such errors should be discoverable through EER review and corrected through simple follow-up.

- Sending an inappropriate signal to sources. Concern has been expressed that categories should be limited to NSPS exceptions and possibly additional exceptions typical of those included in most State regulations. Other categories may have an adverse effect because sources will key to those specific problems and tend to ignore the importance of categories not specifically mentioned. In response to this concern, it is felt that categories should be selected primarily for the purpose of management assistance, and that a logical breakdown according to the most frequently reported reasons will be most useful. Such a breakdown should not result in an inappropriate signal to sources, if the agency in fact conducts a diligent review and follow-up program.

VI. THE REASON CATEGORIES SHOULD HAVE STANDARDIZED DEFINITIONS

(A) Substantial confusion exists among agencies and sources on the definition of reason categories. This confusion may be corrected and should be eliminated in future guidance. The following are proposed definitions for each reason category:

- "Startup" as defined in 40 C.F.R. § 60.2 means "the setting in operation of an affected facility for any purpose." If certain excess emissions during startup are caused by a control equipment failure or a process problem, that portion of the exceedance should be reported as a control equipment failure or a process problem. All other excess emissions during startup should be reported under "startup/shutdown," even through there may have been some additional intervening cause.

- "Shutdown" as defined in 40 C.F.R. § 60.2 means "the cessation of operation of an affected facility for any purpose." It applies to the process of shutting down and not to a period of downtime after the completion of this process. The same qualification for excess emissions due to equipment failure during startup also applies during shutdown.

- "Sootblowing" refers to the periodic removal of soot, slag and/or fly ash from the firebox walls or the tubes of fuel-burning equipment by the use of compressed air, steam or water. (Delaware Air Pollution Regulation No. 1, § 2.)

- "Control Equipment failure" means any on-site control equipment failure. It does not include fuel or conveying equipment, or boiler or other industrial process equipment. It is intended to cover all failures whether or not they are excusable or inexcusable as malfunctions under 40 C.F.R. § 60.2, and even though the underlying reason for the failure is not known.

- "Process Problems" are intended to cover on-site equipment failures other than control equipment. Operational problems (e.g., load change), would also be covered. When distinguishing between process and control equipment, any equipment necessary for the process would be considered process equipment, even though it may have a role in emissions control (e.g., the I.D. fan).

- "Fuel problems" are intended to cover any problem relating to the quality of the fuel ultimately burned at non-FGD facilities. Blending or cleaning problems would also be characterized as "fuel problems," as would the use of high sulfur fuel because of an interruption in the supply of complying fuel, or because of a supplier's error, or an error in coal sampling and analysis results, etc.

- "Other known causes" are intended to cover all known causes of excess emissions not already covered. An example is excess emissions during control equipment maintenance.

- "Unknown cause" is intended to apply to all excess emissions for which the operator must guess at the reason (even though his guess might be a good one). It would not apply to an equipment failure even though the reason for failure is not known.

- The issue relating to malfunctions. Currently 40 C.F.R. § 60.11(c) excuses a source for non-compliance with opacity standards during malfunctions; however, § 60.11(d) requires that such a source must still comply with good air pollution control practices to minimize emissions. No specific summary category for malfunctions has been selected; instead, all control equipment and process problems will be included whether or not they may be excusable. This should avoid potential confusion due to differences in opinion about what constitutes an excusable malfunction. The net effect should be to provide EPA unrestricted information to help screen for potential malfunction problems. Effective implementation of § 60.11(d) in this regard will normally require further review of the underlying report, and ultimately, communication with the source.

VII. THE EER SUMMARY SHOULD ALSO INCLUDE SIMILAR INFORMATION AND CATEGORIES FOR THE CEMS SYSTEM

(A) Explanation

Information would include the total number of incidents during which the monitoring system is out-of-service or malfunctioning, the total duration of such incidents, information allowing for appropriate normalization of reported data, and a breakdown of this information according to the following reason categories defined below: monitor equipment malfunction; non-monitor equipment malfunction; other known cause; and unknown cause.

(B) Major Considerations

- All of the same considerations that apply to summarization of exceedance data apply to summarization of monitoring system data.

(C) The following are proposed summary categories for monitor performance data.

- "Monitor equipment malfunction" refers only to the monitor equipment, and not to accessory equipment such as the computer analyzer or the strip chart recorder. "Malfunction" refers to any period during which the monitor is not operating or is producing inaccurate data, except during periods of calibration, maintenance, or other quality assurance activities.
- "Non-monitor equipment malfunction" refers to all equipment other than the monitor equipment that are necessary to transfer, analyze and record data from the monitor equipment.
- "Quality assurance" refers to any period during which the monitoring system is out-of-service for the purpose of calibration, maintenance, or other quality assurance related activities. Corrective action immediately following a malfunction (detected during the quality assurance evaluation), however, should he classified under the appropriate malfunction category.
- "Other known cause" is intended to cover all other known reasons for monitoring downtime or inaccuracy.
- "Unknown cause" is intended to cover circumstances in which there is inaccurate or no data without an apparent explanation. If a data recorder fails and produces inaccurate data, and the reason for failure is not known, this would be categorized under "non-monitor equipment malfunction." However, if data is clearly inaccurate, and a data recorder failure is suspected but cannot be determined, it should be classified as "unknown cause."

VIII. REVISION AND AGENCY RELIANCE ON THE CEM SUBSET OF CDS

(A) Explanation

Currently the Subset does not include the same breakdown of CEMS performance categories. This additional analytical capability will be useful to EPA as it enters a new phase of reliance on CEMS as a continuous compliance targeting aid. This capability would be substantially enhanced by also providing sorting capability according to monitor brand.

The minimum EER summary information described above should be entered into CDS for all NSPS and any other source required to submit EERs to EPA. EPA should perform this task until it is taken over by each State.

(B) Major Considerations

- o The CEM Subset will provide a useful reference for EPA. CDS provides a useful source of data for defining compliance experience on a categorical basis. As such, it should facilitate compliance program planning at the federal level, by enabling EPA to target sources, localities and States where compliance problems are more extensive.

- o The CEM Subset should be revised to include the minimum summary information indicated in the above recommendations. This would include a summary of incident frequency, information permitting normalization of data, and a revision of reason categories for exceedances and CEMs problems. In addition, data analysis functions and screening according to pre-determined targeting criteria should be added. These changes will facilitate EPA use of the Subset for more effective planning and targeting.

- o This will require a new effort on the part of most EPA Regional Offices, but the burden should be relatively insignificant. The effort will be largely subsumed by the more general task of establishing and conducting a new EER review program; data review and analysis for the latter objective should also accomplish the former. Resources can be saved by delegating the job to a para-professional. Moreover, the existence of an EER summary should make the effort substantially easier.

- o In most Regional Offices and States the receipt of summarized data will not result in an initial time savings for EER review. Individual EERs will usually be reviewed in any case; CDS will provide an additional, rather than an alternative, evaluation capability. However, this may change in the future after the CEM Subset of the CDS is programmed to allow for more sophisticated data analysis, and as agencies begin to adopt targeting practices that include the more sophisticated analysis.

- Many States will not use the system for targeting. Many States that have highly experienced inspectors with a long-term knowledge of sources and a fairly simple targeting program, are not interested in using CDS for EER evaluations. However, source EER summarization in a format convenient to CDS may resolve some State concerns about the effort involved, as well as the difficulty of ensuring the quality of data analysis in independent local or State regional offices. The Subset may also serve as an effective check for the inspector and should prove to be an efficient aid in the transfer of institutional knowledge to new inspectors.

IX. A UNIFORM REPORTING FORMAT SHOULD BE ESTABLISHED FOR NSPS SOURCES

(A) Explanation

The format should be the same for all sources and should be designed to ensure that EER summary elements are clearly indicated on an incident-by-incident basis. In addition, the uniform format should be adaptable to requests for additional information from specific agencies.

(B) Major Considerations

- A uniform format will promote consistency in content since much of it is controlled by the reporting format. Currently received formats vary so significantly from source to source and State to State that information from one source's EER often cannot be compared to information from another's. Although this problem might be corrected by simply defining more precisely the desired content, standardizing the format will make it easier to ensure that the content is the same. Content problems that are duplicated among several sources can then be addressed more efficiently, as can periodic changes in format which may be appropriate.

- A uniform format will facilitate review and evaluation of EERs. Effective review for many sources is currently stymied by significant variations in format. Many formats make it difficult to interpret much of the reported data for individual sources; and the differences from source to source make it difficult to conduct comparative analysis of performance experience. A uniform format will not only assist in solving problems of EER interpretation, but should enable the review to be simpler and more efficient.

- Most State reviewers prefer a uniform format. This should facilitate State assumption of EER review responsibility.

- The format must be flexible enough to allow for agencies to obtain additional information. This is very important since most EER requirements vary to some degree from State to State, and many occasionally acquire different types of information for individual sources.

X. EPA SHOULD INITIATE A MINIMUM EER REVIEW PROGRAM IN THE REGIONAL OFFICES

(A) Explanation

This program should include the quarterly review of all EERs required to be submitted to EPA. This would include all NSPS EERs (whether or not the NSPS program has been delegated to a specific State), and those PSD and SIP EERs that are being filed in the Regional Office. The minimum review program should include:

- A determination of timeliness.

- A determination of completeness.

- A review of the EER summary to determine whether the source should be targeted for follow-up. This review should be conducted according to a specific targeting strategy prepared by the Regional Office. (See example criteria in Recommendation No. XI.)

- A more detailed evaluation of EERS targeted for follow-up according to criteria established by the Regional Office.
- A periodic audit of EERs to ensure that the summary is accurate.
- Prior to the time that source-prepared summaries are available, Regional Office personnel should prepare their own summaries, ensuring to the extent possible that the recommended summary information is obtained.
- A specific allocation of staff hours and responsibility for EER review.
- A system of staff and management accountability for EER review.
- A strategy to encourage State agency assumption of an effective EER review program.

(B) Major Considerations

- Lack of an EER Review Program adversely affects EPA's credibility among sources and may result in poorer compliance efforts. A major source criticism of EPA's CEMS program has been that it requires a source investment in time and resources to install and operate CEMS and report CEMS data, and that EERs are not used at all by most agencies and rarely even reviwed. In sum, there is a lack of credibility involving CEMS directly associated with the absence of EER review and follow-up. This affects both the quality of EER data, as well as quality assurance programs involving CEMS performance and the use of CEMS for emission control at some sources.

  An independent EPA EER Review Program will fill a performance gap in State EER review. Many States have indicated that they will not adopt EER review and follow-up procedures unless EPA establishes and commits to EER review guidelines. Others have indicated informally that they will conduct no EER review regardless of EPA's policy unless EPA provides specific resources for the review. Still others are committed to some limited level of review and would undoubtedly benefit by EPA guidance and leadership. Only a very few States have active, comprehensive EER review programs. It is felt that the most effective spur to State action will be an initial comprehensive effort by EPA, followed by a more and more selective effort as State agencies demonstrate their ability to implement effective EER programs on their own.

XI. EACH REGIONAL OFFICE SHOULD ESTABLISH TARGETING CRITERIA FOR EER FOLLOW-UP

(A) Explanation

Criteria for targeting and recommendations for follow-up should vary according to the different areas of review: (1) compliance with EER requirements; (2) emissions performance; (3) CEMS performance.

The urgency and severity of agency follow-up might be partly controlled by the severity of the problem documented in the EER. For instance, an incomplete EER or CEM data might be considered significant if the source had a history of poor emission control, or if it previously submitted high quality reports and high levels of CEM performance. Therefore, it is recommended that each agency devise its own set of criteria and recommended follow-up actions for each of the three areas noted above. Example criteria which might be useful when formulating an agency's undividual one are included in Section IV of the "Attachment."

(B) Major Considerations

EPA should not specify nationally applicable review and follow-up criteria. Regional Office contacted during this project want the freedom to develop criteria to suit their own specific circumstances. There is general agreement that the criteria should vary among source categories and even subcategories (especially with regard to specific cut points justifying follow-up action). However, examples should be useful to those Regional Offices and States who currently have no organized approach to EER review.

- Specifying a Review and follow-up protocol as a part of general EPA guidance. Regional Offices contacted during this project want the freedom to develop criteria to suit their own specific circumstances. However, this should not restrict the development and presentation of example criteria. An example should be useful to those Regional Offices and States who currently have no organized approach to EER review.

- Should there be a protocol at all? Concern has been raised that development of specific criteria for review and follow-up will have an overall negative effect. It has been pointed out that mere preparation of a protocol does not ensure that it will be implemented, and that it may be too confining and either restrict the Region's flexibility in an inappropriate way or be ignored. It has also been argued that establishing targeting criteria changes the underlying standard and will result in relaxed compliance efforts; and even though EPA may try to keep the protocol secret, it will inevitably become public, since efforts must be made to encourage State adoption of similar procedures.

- A follow-up program should not be delayed pending institution of uniform format and summary requirements. Although current EER content and format problems will restrict the extent to which agencies are able to develop effective and uniform follow-up criteria, it should be possible to proceed with some type of follow-up program based on individual source reports. The follow-up effort should be devoted to correcting deficiencies in content, and follow-up criteria should not require major changes in content or format. Major changes should be required only once, in a single nationwide effort.

- Targeting criteria must be expected to vary among source categories and some believe that they must vary from source to source.

APPENDIX A - 3

Sample Form
10/3/84

CEMS GENERAL COMPLIANCE AUDIT DATA SHEET
(40 C.F.R. Part 60, Subpart D)

APPENDIX A-3

Instructions and Explanation

ITEM 1: Audit Results

ITEMS 2-4: Standard Source Identification Information

ITEM 5: Emission Requirements

Normally the emission limits and exceptions will be those specified in Subpart D; however, in some circumstances, variations may apply -- as a result of a special permit, enforcement, etc. Note the specific exception and the specific regulation or requirement in which it is contained (e.g., "operating permit" or "order," etc.). "Description of Control System" is meant to provide space for identifying the basic control system (e.g., "hot side ESP rated 99.2%" or "long term low sulfur coal contract").

ITEM 6: CEMS Compliance Status

In general, answer yes/no and provide other information as requested:

- "Type of CSA/CEM Requirement" Enter the type of requirement (e.g., NSPS regulation, permit, enforcement order, etc.).
- "Dates CEMS Installed/Operational" Enter the date of installation and the date the CEMS began operating.
- "Date(s) of PST?" Enter symbol "P" with the most recent date passed. If it passed, then recently failed, both occurrences might be noted (e.g., P-7/19/81; F-6/4/84).
- "Is Source Filing EERs? To Whom?" Yes/no. If yes, specify to whom by entering "State," "EPA" or "State & EPA."
- "Do EERs Indicate Emissions Problems?" Yes/no. If "yes," provide more information in ITEM 8 or in an attached sheet.
- "Do EERs Indicate CEMS Problems?" Yes/no. If "yes," provide more information in ITEM 8 or in an attached sheet.
- "Do EERs Comply with Reporting Requirements?" Yes/no. If "no," provide more information in ITEM 8 or in attached sheet.
- "Results of Agency Field Audit" If not conducted, enter "n/a." If conducted, enter "P" (pass), "F" (failed), or "Inc" (Incomplete), and the date -- for the most recent audit. If "F," more detailed information should be provided in ITEM 8 or in an attached sheet.

ITEM 7: Basic CEMS Identification Information

ITEM 8: Additional Baseline Information/Comments

In addition to expanded information on prior items, other baseline information may be included (e.g., a summary of a quality assurance plan, test schedules or monitor replacement plans, etc.).

ITEM 9: Follow-up Action Plan (If Appropriate)

In follow-up action is necessary, note recommended follow-up action, management concurrence, etc.

Sample Form
10/3/84

CEMS GENERAL COMPLIANCE AUDIT DATA SHEET

40 C.F.R. Part 60, Subpart D
(See Instruction Sheet)

1. **Audit Results**

Follow-up Recommended ______
(Yes/No, see # 8)

______
(Name)

______
(Date)

2. **Company** ______

3. **Plant/Unit(s)** ______

Address ______

______

Source Type ______

Size ______

4. **CEMS Contact** ______
(Name)

______
(Position)

______
(Telphone No.)

5. **Emission Requirements**

	Emission Limitations	Exceptions/ Type of Exception	Description of Control System
Opacity			
SO_2			
NO_x			

6. **CEMS Compliance Status**

	Type of CSA/CEMS Requirement	Date(s) CEMS Installed/ Operational	Date(s) of PST	Is Source Filing EERs? To Whom?	Do EERs Indicate Emissions Problems?	Do EERs Indicate CEMS Problems?	Do EERs Comply w/ Reporting Requirements?	Results of Agency Field Audit
Opacity		/		/				
SO_2		/		/				
NO_x		/		/				

7. Basic Monitor Information

	Monitor Make, Model & Serial Number	Recorder Type and Model	Computer/ Software	Other
Opacity				
SO_2				
NO_x				
CO_2				
O_2				

8. Additional Baseline Information/Comments

9. Follow-up Action Plan (If Appropriate)

APPENDIX A - 4

APPENDIX A-4

NSPS SOURCE CATEGORIES WHICH ARE REQUIRED TO USE CONTINOUS EMISSION MONITORS
(as of October 1, 1984)

Subpart	Source Category	Pollutant
D	STEAM GENERATORS	
	Solid Fossil Fuel	Opacity, SO_2, NO_x
	Liquid Fossil Fuel	Opacity, SO_2, NO_x
	Gaseous Fossil Fuel	NO_x
Da	ELECTRIC UTILITY STEAM GENERATING UNITS	
	Solid Fossil Fuel	Opacity, SO_2 (at inlet and outlet of control device), NO_x
	Liquid Fossil Fuel	Opacity, SO_2 (at inlet and outlet of control device), NO_x
	Gaseous Fossil Fuel	NO_x
G	NITRIC ACID PLANTS	NO_x
H	SULFURIC ACID PLANTS	SO_2
J	PETROLEUM REFINERIES	
	FCCU	Opacity, CO
	Combustion of Fuel Gases	SO_2 or H_2S
	Sulfur Recovery Plant	SO_2[a], H_2S[b], TRS[b], TRS[b]
N	IRON AND STEEL PLANTS	
P	PRIMARY COPPER SMELTERS	Opacity, SO_2
O	PRIMARY ZINC SMELTERS	Opacity, SO_2

---

[a] For oxidation control systems.

[b] For reduction control systems not followed by incineration.

Subpart	Source Category	Pollutant
R	PRIMARY LEAD SMELTERS	Opacity, SO_2
Z	FERROALLOY PRODUCTION FACILITIES	Opacity
AA	STEEL PLANTS: ELECTRIC ARC FURNACES	Opacity
BB	KRAFT PULP MILLS	
	Recovery Furnace	Opacity TRS (dry basis)
	Lime kiln, digester system, brown stock washer system, multiple effect evaporator system, black liquor oxidation system, or condensate stripper system.	TRS (dry basis)
HH	LIME MANUFACTURING PLANTS	
	Rotary Lime Kilns	Opacity[a]

---

[a] Does not apply when there is a wet scrubbing emission control device.

TECHNICAL REPORT DATA

TECHNICAL REPORT DATA

(Please read Instructions on the reverse before completing)

1. REPORT NO. 340/1-84-015	**2.**	**3. RECIPIENT'S ACCESSION NO.**
4. TITLE AND SUBTITLE Technical Guidance on the Review and Use of Excess Emission Reports (EERs)		**5. REPORT DATE** October 1984 **6. PERFORMING ORGANIZATION CODE**
7. AUTHOR(S) Louis R. Paley, SSCD, OAQPS, EPA		**8. PERFORMING ORGANIZATION REPORT NO.**
9. PERFORMING ORGANIZATION NAME AND ADDRESS		**10. PROGRAM ELEMENT NO.** N/A **11. CONTRACT/GRANT NO.** N/A
12. SPONSORING AGENCY NAME AND ADDRESS Stationary Source Compliance Division, OAQPS (EN-341) 401 M Street, S.W. Washington, D.C. 20460		**13. TYPE OF REPORT AND PERIOD COVERED** Final **14. SPONSORING AGENCY CODE** EPA 340/1

15. SUPPLEMENTARY NOTES

Technical guidance to air compliance offices of EPA

16. ABSTRACT

The objective of this guidance is to assist EPA Regional Offices in proceeding expeditiously, and in a nationally consistent manner, with the review and follow-up of EER data from NSPS Subpart D and other source categories where the monitoring system is not the compliance method. The guidance suggests that agencies initiate this three-phase EER review and follow-up program concurrently with the development of a thorough inventory of CEMS-affected sources and the determination of the compliance status of these sources with CEMS installation and operating requirements. The guidance recommends the implementation of a methodical procedure to review and follow-up on EERs derived from sources which the agency believes for the most part are in compliance with their emission, monitoring, and reporting requirements. In general, the procedures are not designed primarily for use on known violators or sources which have had a long history of non-compliance. Although the guidance outlines a program primarily based upon Agency experience with EERs from large boilers, the guidance can be used for the review and follow-up of EERs derived from continuous emission monitoring systems required by most Federally-enforceable regulations (most current applications of CEMS data, other than direct compliance determinations with emission standards such as in Subpart Da).

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
Compliance Compliance Data System (CDS) Continuous Emission Monitoring Systems (CEMS) Excess Emission Reports (EERs) Guidance New Source Performance Standards (NSPS)		

18. DISTRIBUTION STATEMENT Release unlimited	**19. SECURITY CLASS** *(This Report)* N/A	**21. NO. OF PAGES**
	20. SECURITY CLASS *(This page)* N/A	**22. PRICE**

EPA Form 2220-1 (Rev. 4-77) PREVIOUS EDITION IS OBSOLETE

The information requirements relating to Subpart D sources that are supported by the CEM subset are summarized below. These requirements are outlined in the OAQPS document Technical Gudiance on Review and Use of Excess Emission Reports, EPA-340/1-84-015, September 1984.

- Track the frequency of excess emission incidents as well as the duration of such incidents.
- Separate summarization of opacity data occuring during a source outage or downtime.
- Changed and/or expanded summary catagories such as "other known causes", "Fuel problems", "Control equipment failure", and "Process problems".
- Information permitting normalization of data.
- Data analysis and screening according to pre-determined targeting criteria.
- Standardized definitions of reason categories.

In general, the information from the CEM Subset will support the review and follow-up of EER data from NSPS Subpart D and other source catagories.

APPENDIX D

SUGGESTED CONTINUOUS EMISSION MONITORING EXCESS EMISSIONS REPORT FORMAT

Appendix D

SUGGESTED CEM EXCESS EMISSIONS REPORT FORMAT*

I. General Report Information *60.7(C)*

A. Date report submitted: ____________________

B. Number of days in reporting period: ______ days

C. Period ending for year 19___ (check one):

___ March 31 ___ June 30 ___ September 30 ___ December 31 ___Other

II. Company/Facility Data *(60.7(c) Some implied*

A. Owner/Operator: ____

1. Name: ____

2. Mailing Address: ____

____

3. Contact Name: ____

Title: ____

4. Phone Number (____) ______________________________

B. Facility Description

1. Plant Name: ____

Unit or Process Name & Number (etc.) ______________________________

____

2. Mailing Address ____

____

3. Plant Location: ____

4. Type of Product (steam, acid, etc.): ______________________________

5. Major Input Material (s): ______________________________

6. Total Hours of On-line Production During Reporting Period: ________

7. Control Device (s) Operated: ______________________________

Brackets include citation of applicable regulation

III. CEMS Operational Data *60.7(b), 60.7(d), (implied background)

A. Parameters Monitored (specify): ________ ________ ________

B. Equipment Description (use footnotes if needed): ________ ________ ________

1. Manufacturer: ________ ________ ________

2. Model Number: ________ ________ ________

3. Serial Numbers: Main Chasis ________ ________ ________

Control Unit ________ ________ ________

4. Basis of Measurement (wet or dry) ________ ________ ________

5. Instrument Span (range value, specify units): ________ ________ ________

6. Span Level Check for Daily Calibration (ppm): ________ ________ ________

C. Program Information

1. Units of Emission Limit: ________ ________ ________

2. Applicable Emission Limit: ________ ________ ________

3. Averaging Time of Limit (hours, days, ext.): ________ ________ ________

4. Reason(s) CEMS Installed (NSPS, SIP, permit, etc.): ________ ________ ________

5. Original Installation Date: ________ ________ ________

6. Last Equipment Start-Up Date: ________ ________ ________

7. Last PST Date (attempt, include results of in this quarter): ________ ________ ________

8. PST Successful or Unsuccessful: ________ ________ ________

IV. Certification of Report Integrity (by supervisory person responsible for CEMS data validity) *60.7(c)*

THIS IS TO CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, THE INFORMATION PROVIDED IN THE ABOVE REPORT IS COMPLETE AND ACCURATE.

A. On-Site Person Completing Report		B. Environmental Program (on-site) Manager
	Signature	
	Name	
	Title	
	Address	
(____)	Phone	(____)
	Date	

WEEKLY EXCESS EMISSION SUMMARY

(Enter Each Excess Emission Period)[1]

Report Date: ________________ to ________________

Affected Facility:[3] ____

Parameter Monitored: ________________________ Emission Limit: ___________

Number of On-Line Production Hours During Week: ___________________________

Number of On-Line Production Periods[1] During Week: _______________________

DATE	OUTAGE BEGAN	OUTAGE ENDED	TOTAL HOURS	TOTAL PERIODS	REASON FOR OUTAGE	CORRECTIVE ACTION

1. Be specific, e.g., Boiler No. 7, Acid Plant E, etc.

APPENDIX E

EPA REGIONAL CEM CONTACTS

EPA REGIONAL CEMS CONTACTS

Person	Division	Phone
REGION I:		
Tom Elter	Air Management	617-565-3259, FTS 835-3259
REGION II:		
Dennis Santella	Air & Waste	212 264-9628, FTS 264-9628
Frank Jon	Air & Waste	212 264-4726, FTS 264-4726
REGION III:		
Glen Hanson	Air & Waste	215 597-3024, FTS 597-3024
REGION IV:		
Mark Armentrout	Air & Waste	404 347-7654, FTS 257-7654
REGION V:		
Pat McCoy	Air & Waste	312 886-2086, FTS 353-2086
REGION VI:		
Stan Spruiell	Air & Waste	214 767-2724, FTS 729-2724
Phil Schwindt	Env'mental Serv.	214 767-2755, FTS 729-2755
REGION VII:		
John Knodles	Air & Waste	913 236-2896 FTS 757-2896
JoAnn Heiman	Air & Waste	913 236-7131, FTS 757-7131
REGION VIII:		
Dennis Woljan	Env'mental Serv.	303 236-5064, FTS 776-5105
REGION IX:		
Mark Simms	Air & Waste	415 974-7648, FTS 454-7648
Chuck Seeley	Air & Waste	415 974-8053, FTS 454-8053
REGION X:		
Mark Hooper	Air & Waste	206 442-1949 FTS 399-1949

APPENDIX F

CHANGES INCORPORATED IN CEMS UNDER THE CEMS UPGRADE TASK

The following is the list of tasks assigned to TRC under the CEMSS Upgrade Work Assignment, followed by the action taken by TRC to complete the task:

1. Review, "Technical Guidance on Review and Use of Excess Emission Reports (EPA-3410/1-84-015)" to document the information requirements relating to Subpart D sources and modify the CEMSS persuant to this guidance.

   TRC reviewed "Technical Guidance on Review and Use of Excess Emission Reports (EPA-3410/1-84-015)". Included is a copy of the Guidance in Appendix "C" of this User's Guide with a list of the highlights of the guidance as it relates to Subpart D Sources.

2. Modify the Continuous Emission Monitoring System Subset (CEMSS) to track Subpart D, and other sources incorporating the new information requirements. Modifications to CEMSS will include the five cobol programs. This involves changes to three retrieval programs, the Edit (input) Program, and the CEMSS Update Program. Changes will include: tracking additional reasons for excess emisssions and monitor down time in retrieval programs; Edit Program handling a new input data card type to the Mod File; Update Program handling a new card type of Mod File and incorporating the new data into the CEMSS Masterfile.

   TRC modified all CEMSS COBOL programs to add a new input card "72", modify the existing card "71" and add the new reasons identified in the technical guidance. In order to complete these modifications, TRC needed to first test the existing system, identifying all problems that interfered with the proper operation of the system or with the installation of the modifications. The problems were documented or corrected as they were identified.

   The problems requiring identification and correction before modifications could begin under this work assignment, are as follows:

   A limit of forty "10" cards for retrieval selection.

   The report being truncated on Retrieval Edit Report.

   The Source Data level code was missing on the Report Request Form.

   The Report Request Form specifies Comment Codes for selecting comments on a Quick Look Report, but no coding exists in the Retrieval or Print Programs to select or print the comments. The Report Request Form was modified to exclude the "Comment Code" selections as the programming required to select comments is lengthy and was not included in the upgrade task.

   No documentation existed in the CEMSS User's Guide on how to run a Questionnaire Report. Documentation has now been added to the User's Guide, as well as to the new WYLBUR CEMSS Retrieval routine.

   The CEMSS Edit Log contained incorrectly generated totals from the Edit Program.

CDS Data Elements are not complete in CEMS. This is due to upgrades that were placed in CDS that had not been entered into CEMS at the time. Only those data elements which would aid CEMS users in retrieving CEMS data on reports have been added to CEMS.

Obsolete CDS Data Elements are contained in CEMS. None of these have yet been removed from CEMS as they do not impact the operation of CEMS and would require valuable programming time to correct.

Data elements in CEMS at the action level conflict between the card 70 data and the card 71 data. No change has been made to correct this problem, but a plan will be submitted to SSCD to resolve this conflict which has been reported to CEMS users through the CEMS Newsletter.

The Time Period Data Element in CEMS conflict with the CDS Fiscal Year scheduled data element. This conflict can be resolved under the same plan as the resolution of the conflict between the card 70 and card 71 data elements above.

Swap Scheduling between CEMS and CDS was resolved by combining the two swaps in one run and by combining the two system updates.

Excess Emission and Monitor Downtime calculations in the existing CEMS were found to be incorrect. The calculations have been corrected in the upgraded system.

Total Source Operating Time was being cleared to zero any time a card "71" change transactions was entered thru the CEMS Edit/Update cycle. The system has been corrected to not damage the Total Source Operating Time. The existing data, however, should be examined thoroughly for evidence of damage.

The CEMS Update Report is produced as one file and one report which must then be separated by use of a WYLBUR routine for distribution to the regions and states. With WYLBUR being replaced by TSO, a different method of distribution of this report must be produced. A plan will be submitted to SSCD for modifications to the system to produce multiple report files for the separate regions as in CDS.

The sort order of the CEMS Update Report is also incorrect. This will be corrected under the update report distribution plan above.

All data elements have not been identified as being printed properly in the various CEMS reports. Further testing will be done as work continues under the operation and maintenance of CEMS.

The CDS data copied to the CEMS masterfile during the CEMS update has been identified by CEMS users as being incomplete. Source and Point data copied from CDS is not copied correctly. This will be investigated and corrected during the continued maintenance of the CEMS system.

The password used for accessing confidential data in CEMS is the same for all CEMS users. The need for regional passwords will be discussed with SSCD and a plan proposed for multiple files and passwords as in the CDS system.

The processing of "M3" action types were being entered in a number of different manners. Although there is a proper method of entering "M3" EER Submission actions into CEM, that method had never been properly documented or programmed into the system. The programs have been modified now to accept only the proper method for entering "M3" actions. Other methods used for entering "M3" actions will result in a warning message in the Edit Program. The "M3" actions will be converted to the proper method of using a card "70" with an action number of "0099" and a channel number of "000". "M3" actions can be entered at any CEMS/CDS point, but must be entered at point "0000", in order to receive credit under the EPA's SPMS.

3. Design an updated Continuous Emission Monitoring Data Form which will contain a new card type (card 72) to allow space for additional data.

   TRC designed and produced an intermediate input form for the existing CEMS system and distributed it to CEMS users in the CEMS Newsletter. TRC designed, produced and distributed a new CEMS input form including the redesigned card "71" and the new card "72". These two CEMS input cards contain the new reason fields for excess emissions and monitor downtime and the fields to record the number of incidents of excess emissions and monitor downtime. This is the reason fields are expanded from five positions to six positions.

4. Design a new CEMSS Report (Retrieval) Request Form consistent with the changes herein.

   TRC designed and produced an intermediate Report Request Form to match the existing CEMS systems capabilities and distributed it to CCMS users in the CEMS Newsletter. TRC designed, produced, and distributed to CEMS users, a new CEMS Report Request Form, including all of the options currently available in CEMS.

5. Develop new WYLBUR input and Retrieval Exec programs to accomodate the additional data in CEMSS.

   TRC modified the existing WYLBUR routines to handle the new EER data and report modifications.

6. Modify the CEMSS data element, "TIME". This data element shall be modified to allow for several one letter codes which will represent the time period in which source operating time, durations of excess emissions, and monitor down times are recorded. The data element will be used for both retrievals and input data.

   TRC examined data in CEMSS for valid values and polled CEMSS users to determine the Time Periods currently used for entering total source operating time, data for reasons for excess emissions, and reasons for monitor downtime in CEMSS. The time periods identified have been set up as separate codes for entering EER data time periods. These codes are identified in this user's guide and documentation on the use of these time period coded has been distributed to CEMSS users.

7. Convert data in the CEMSS Subset to a standardized time frame. Research will be conducted to determine present time periods used before any data is converted. All conversions will be performed in close cooperation with Regional and State staff.

   TRC determined from its discussions with CEMSS users that there were too few Regions that could identify positively what time periods were used in entering EER data in periods to be able to convert existing CEMSS EER data to a standardized time frame. TRC and SSCD jointly decided to identify the early data with unconverted time periods as being not converted. TRC modified the CEMSS Retrieval to print a message identifying the EER data as not converted any time the time period is requested or may exist in data printed on a CEMSS report.

8. Modify the CEMSS Subset to track number of incidents for excess emissions and monitor down time.

   TRC modified all of the CEMSS COBOL programs to include the number of incidents for excess emissions and monitor down time. Documentation on the use of these data elements is included in this users guide and the data elements are shown on the new CEMSS input forms.

9. Modify the CEMSS as follows: (a) augment the STAT Report so that; the following functions/fields may be specified by the user, (1) title field, (2) CDS data element(s) and (3) multiple quarters of information, (b) add a three demensional capability (similiar to card 51 in CDS), (c identify methods to automate the graphics capability such that CEMSS outputs are more easily plotted, and (d) eliminate any reference to the term "compliance" in the subset.

   TRC has modified the CEMSS statistical report to print the title field from the retrieval "01" card and to remove the SIC control from the report. TRC has modified the CEMSS Retrieval and Print Programs, the CEMSS Report Request Form and the new WYLBUR Report Request Routine to include the three element milestone report with the card "51" similar to CDS. Documentation on the use of this Report Request card "51" and the three element milestone report is included in this user's guide.

10. Provide a separate section of documentation explaining the special handling and interpretation of Subpart D data. An example, outlining the entry/retrieval/evaluation of such information shall be included.

    TRC has reviewed the technical guidance, included a copy of the technical guidance in Appendix C, illustrating the handling of Subpart D data.

11. Provide documentation on the changes to CEMSS. Documentation will include: updates to CEMSS User's Guide; information packet explaining changes to all CEMSS users; appropriate technical information to facillitate data entry.

    This section, Appendix F, "Changes Incorporated in CEMS Under Upgrade Task" is included in revised CEMS User's Guide. All new data elements, use thereof, and use of the modified WYLBUR Input and Report Request routines, is contained within this revised CEMS User's Guide.

APPENDIX G

CONTINUOUS EMISSION MONITORING SYSTEM SUBSET
CODING CONVENTIONS
AS DEVELOPED FOR U.S. EPA REGION V

On November 5, 1986 at the National CDS Users' Conference in Baltimore, MD Mr. Patric McCoy of EPA Region V presented the coding conventions for CEMSS developed and used by Region V.

After an investigation of the issues brought out by Mr. McCoy's presentation, SSCD decided to adopt compatible, though not identical, conventions for the entire CEMSS.

Briefly, the new conventions are intended to insure that each EER is input once and only once, and in a way that any user can easily determine what kind of source and pollutant generated the EER. This is accomplished by coding information in the CHANNEL field. The CHANNEL field differentiates descriptive information from parametric excess emission data; specifies pollutant; and differentiates EER from Percent Reduction data. All users will be required to follow this convention in the interest of maintaining database uniformity.

The Region V point number convention requires a generation of a CEMSS point number in the 500-599 range. The national system allows but does not require this convention because it was found that a number of organizations provide data to CEMSS from a data system which is tied to CDS point identifications.

Regardless of the point number convention chosen, the underlying principle remains that one EER should be reported on one and only one point number. Those organizations maintaining identical CDS/CEMSS point numbers, must input EER data on only one of several points when multiple CDS points report with a single EER. Comment information may be added for the other points to indicate where EER data for those points is located.

A copy of the Region V CEMSS coding conventions is contained in this Appendix for further information (from Geomet Technologies report number EA-1656, August 1986). The Region V conventions are allowed by the present CEMSS; however, see the discussion of point/channel numbers on pages 5-14 to 5-16 of this Users' Guide for the somewhat relaxed requirements for point number assignment nationwide.

U.S. Environmental Protection Agency, Region V

CONTINUOUS EMISSIONS MONITORING SUBSET (CEMS)

CODING CONVENTIONS

OVERVIEW

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Appendix A--SAMPLE GRAPHS

Section 1.0

INTRODUCTION

Section 1.0

INTRODUCTION

Region V has implemented Continuous Emissions Monitoring Subset (CEMS) coding conventions in a format designed to clearly organize and accurately track excess emission report (EER) data and to correlate and reflect the reality of how sources actually configure their monitoring systems.

The coding formats used in Region V, while following National CEMS requirements, are flexibly structured and serve to create an easily accessible and accurate data base. For example:

- The coding formats are conventional
    - They conform to the requirements of the National CEMS
    - They do not conflict with the National CEMS coding conventions.
- They are structured
    - To isolate CEM data on a range of CDS emission point numbers that is not being used for other air compliance data
    - To regulate the coding of emission points in a format that highlights their EER function
    - To require strict conformance in coding point and channel information and in the use and coding of action types
    - To establish Region V CEMS action type codes and action descriptions for CEM-related actions.

- They are flexible
  - To allow CEMS input of either quarterly or monthly reported EER data
  - To allow for future input of other parametric emissions-related data.
- They result in an accessible and accurate data base
  - Providing, through the point/channel relationship, an accurate tally of CEM-equipped sources for accounting or tracking purposes
  - Allowing easy access to emissions data for statistical manipulation and for graphical representation
  - Eliminating multiple cross-referencing and duplication of data.

Section 2.0

CDS POINTS RESERVED FOR CEMS USE

Section 2.0

CDS POINTS RESERVED FOR CEMS USE

Region V recognized a need to minimize problems associated with coding CEMS data onto randomly available CDS point numbers. Region V also recognized a need to keep EERs as a controlling factor in CEMS and to avoid tracking sources by their monitors. National CEMS presently uses existing but randomly available CDS point numbers for storing CEMS data. Region V has reserved a specific range of CDS point numbers (i.e., point numbers between 500 and 599) to be used for storing CEMS data exclusively. A Region V CEMS retrieval limited to this range of point numbers will access all available CEMS data. For a source that has continuous emissions monitoring (CEM) equipment and is required to submit EERs, CDS point numbers are entered under that facility's source number in the reserved section of point numbers irrespective of other CDS point numbers holding other compliance information.

In Region V, the 500-level points in CDS must be described in a specific and consistent format. This required format accomplishes the following:

- Identifies the pollutant being monitored
- States that it is an "EER" point
- Describes the emission source or combination of sources being monitored/reported.

This format was established because Region V recognizes EER data to be the controlling factor in CEMS and Region V wants to accurately track and quantify this data.

Coding the point process description for a 500-level point by the following steps will provide a clear, concise base for further data entry.

1. First code the three- or four-digit pollutant abbreviation (OPAC, SO_2, NOX, etc.)
2. Leave a space
3. Code "EER;"
4. Leave a space
5. Code the point description/unit number

For example: OPAC EER; BLRS 3, 4, & 5
OPAC EER; FCCU #710
SO2 EER; CLOQUET #9
NOX EER; COLLINS 4 & 5

For sources with new requirements for CEMs, the person coding data must first ensure that the source is in CDS, then go to the reserved 500-level point section and code a point there, as described above, to prepare for entry of CEMS data.

In all cases, the CDS/CEMS point number will correspond to an emitting unit or combination of units for which the source owner/operator submits a distinct EER.

For opacity monitoring, only in the rare situation where two or more units are venting to one stack and are not subject to the same opacity limit will Region V establish multiple opacity emission point numbers for that stack. In that case, each different unit or different combination of units venting to that stack would have to be individually monitored, to report EERs individually, and to have separate point numbers.

For all other opacity monitoring, each emission point number will always represent an actual emission point, i.e., the stack. A stack can have only one opacity emission point number in the 500-599 range of CDS for the purpose of holding and receiving data in CEMS. Therefore, each opacity emission point number between 500 and 599 in CDS/CEMS will represent either a single-unit/single-stack relationship or a combination of units venting to a single stack.

However, for gaseous emission monitoring, an emission point number can represent some or all of the affected units discharging to a common emission point. A stack can have more than one emission point number in the 500-599 range for a particular gaseous pollutant.

The sequence of coding CDS point numbers under a source number does not follow any particular convention. In general, opacity emission points will be coded first, then sulfur dioxide, nitrogen oxides, etc. It is recommended that points be numbered consecutively, without skipping numbers.

Section 3.0

CEMS CHANNEL NUMBERING CONVENTIONS

Section 3.0

CEMS CHANNEL NUMBERING CONVENTIONS

In CEMS, the channel number is the key for identifying and tracking CEMS monitor information, EER data, process and control parametric data, and percent reduction data.

Region V has a channel numbering system that physically separates but numerically links monitor-specific information and EER data for a particular emission point in the data base. This system allows for the existence of a single point number in CEMS having multiple monitor channels attached to it. There will only be one EER channel number on a given 500-level point. There can be multiple monitor channel numbers on that same point, for example, when a combiner system is used to generate a single EER.

The Region V channel numbering system also allows for future expansion of the data base. Because EER data for a given source are on a specific channel, and monitor information is on a limited range of channels, other channel numbers are available to reserve for future use. For example, in addition to EER channel numbers and monitor channel numbers, in Region V, unique channel numbers have also been assigned for percent reduction data (for SO_2 and NO_x) in anticipation of the time when this information will be routinely reported in the EERs. Unique channel numbers can also be reserved to hold other emission-related parametric data such as that derived from flue gas desulfurization, fuel sampling and analysis, or from particulate control device information. See Figure 1 for a generic example of the structure of CEMS data on CDS 500-level point. It shows that other parametric emissions data can be tracked without interfering with EER tracking. Figure 2 is a more specific example.

GENERIC CEMS/CDS POINT/CHANNEL STRUCTURE

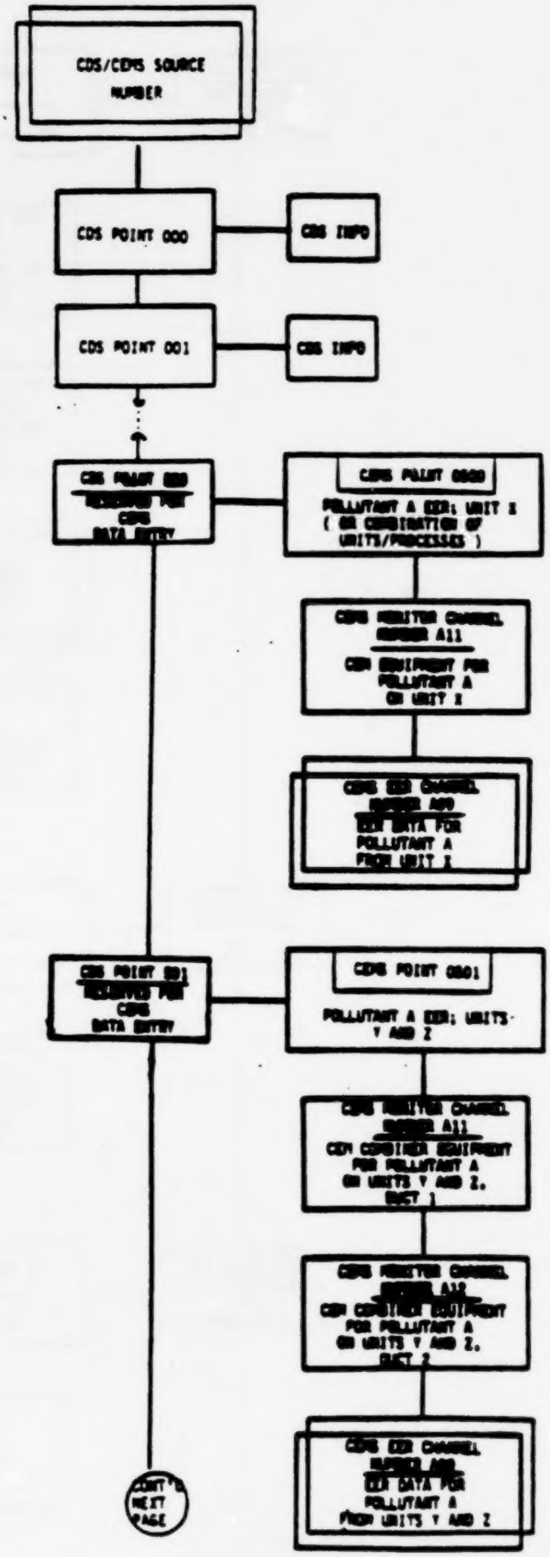

CDS/CEMS SOURCE NUMBER
CDS POINT 000
CDS INFO
CDS POINT 001
CDS INFO
CDS POINT 800
RESERVED FOR CEMS DATA ENTRY
CEMS POINT 0800
POLLUTANT A EER; UNIT X (OR COMBINATION OF UNITS/PROCESSES)
CEMS MONITOR CHANNEL NUMBER A11
CEM EQUIPMENT FOR POLLUTANT A ON UNIT X
CEMS EER CHANNEL NUMBER A00
EER DATA FOR POLLUTANT A FROM UNIT X
CDS POINT 801
RESERVED FOR CEMS DATA ENTRY
CEMS POINT 0801
POLLUTANT A EER; UNITS Y AND Z
CEMS MONITOR CHANNEL NUMBER A11
CEM COMBINED EQUIPMENT FOR POLLUTANT A ON UNITS Y AND Z, DUCT 1
CEMS MONITOR CHANNEL NUMBER A12
CEM COMBINED EQUIPMENT FOR POLLUTANT A ON UNITS Y AND Z, DUCT 2
CEMS EER CHANNEL NUMBER A00
EER DATA FOR POLLUTANT A FROM UNITS Y AND Z
CONT'D NEXT PAGE

Figure 1. Generic Example of Structure (cont'd)

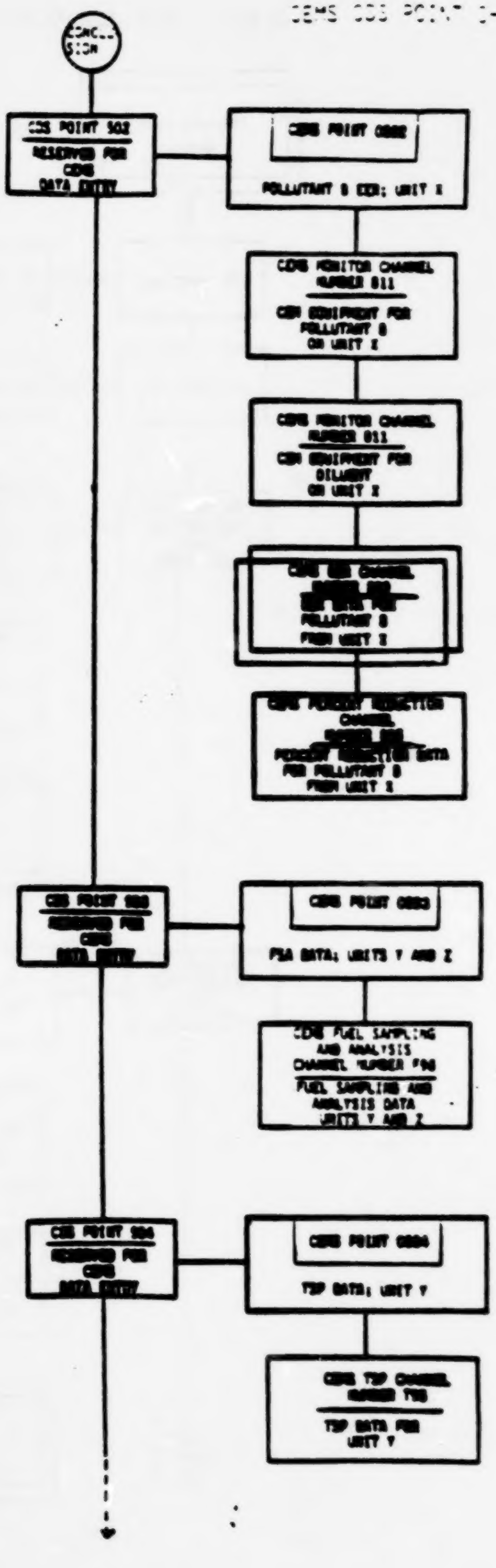

CONCLUSION
CDS POINT 502
RESERVED FOR CEMS DATA ENTRY
CEMS POINT 0002
POLLUTANT B CER; UNIT X
CEMS MONITOR CHANNEL NUMBER 011
CEM EQUIPMENT FOR POLLUTANT B ON UNIT X
CEMS MONITOR CHANNEL NUMBER 011
CEM EQUIPMENT FOR DILUENT ON UNIT X
CEMS EER CHANNEL
EER DATA FOR POLLUTANT B FROM UNIT X
CEMS PERCENT REDUCTION CHANNEL
PERCENT REDUCTION DATA FOR POLLUTANT B FROM UNIT X
CDS POINT 503
RESERVED FOR CEMS DATA ENTRY
CEMS POINT 0003
FSA DATA; UNITS Y AND Z
CEMS FUEL SAMPLING AND ANALYSIS CHANNEL NUMBER F98
FUEL SAMPLING AND ANALYSIS DATA UNITS Y AND Z
CDS POINT 504
RESERVED FOR CEMS DATA ENTRY
CEMS POINT 0004
TSP DATA; UNIT Y
CEMS TSP CHANNEL NUMBER T95
TSP DATA FOR UNIT Y

Figure 1. Generic Example of Structure (concluded)

CEMS/CDS POINT/CHANNEL STRUCTURE

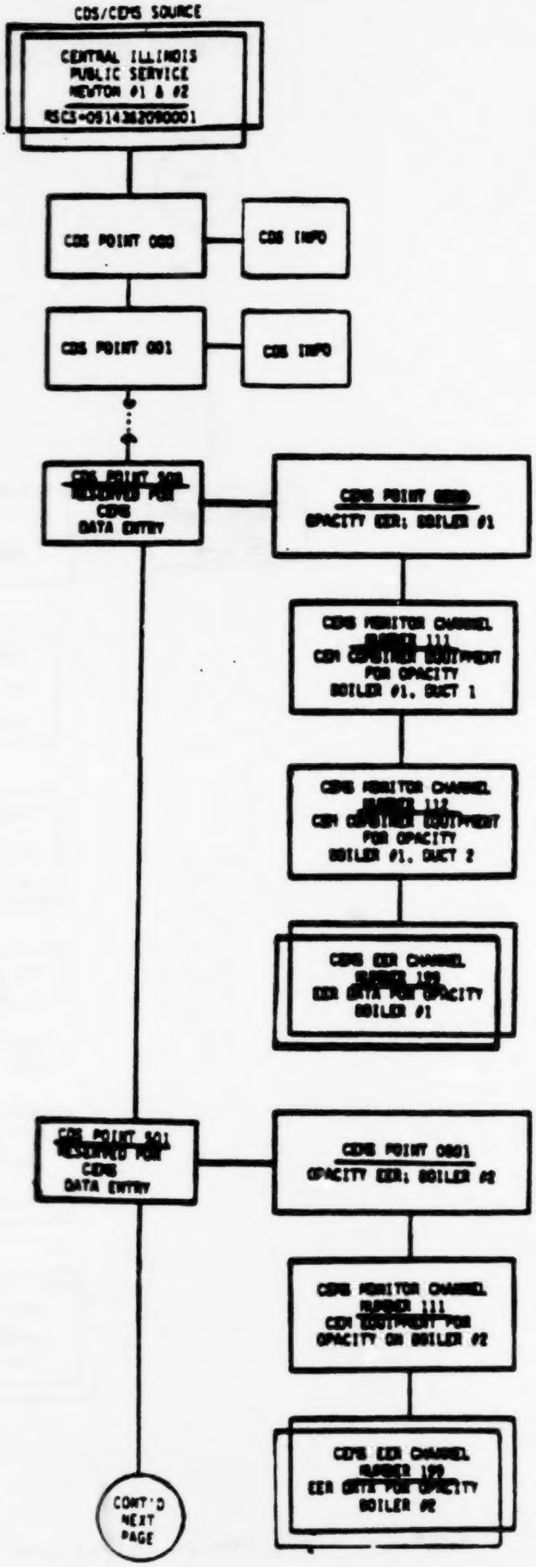

CDS/CEMS SOURCE
CENTRAL ILLINOIS PUBLIC SERVICE NEWTON #1 & #2
RSCS=0514362090001
CDS POINT 000
CDS INFO
CDS POINT 001
CDS INFO
CDS POINT 500 RESERVED FOR CEMS DATA ENTRY
CEMS POINT 0000
OPACITY EER; BOILER #1
CEMS MONITOR CHANNEL NUMBER 111
CEM CONTAINER EQUIPMENT FOR OPACITY BOILER #1, DUCT 1
CEMS MONITOR CHANNEL NUMBER 112
CEM CONTAINER EQUIPMENT FOR OPACITY BOILER #1, DUCT 2
CEMS EER CHANNEL NUMBER 199
EER DATA FOR OPACITY BOILER #1
CDS POINT 501 RESERVED FOR CEMS DATA ENTRY
CEMS POINT 0001
OPACITY EER; BOILER #2
CEMS MONITOR CHANNEL NUMBER 111
CEM EQUIPMENT FOR OPACITY ON BOILER #2
CEMS EER CHANNEL NUMBER 199
EER DATA FOR OPACITY BOILER #2
CONT'D NEXT PAGE

Figure 2. CIPS, Newton, Structure (cont'd)

CEMS/CDS POINT/CHANNEL STRUCTURE

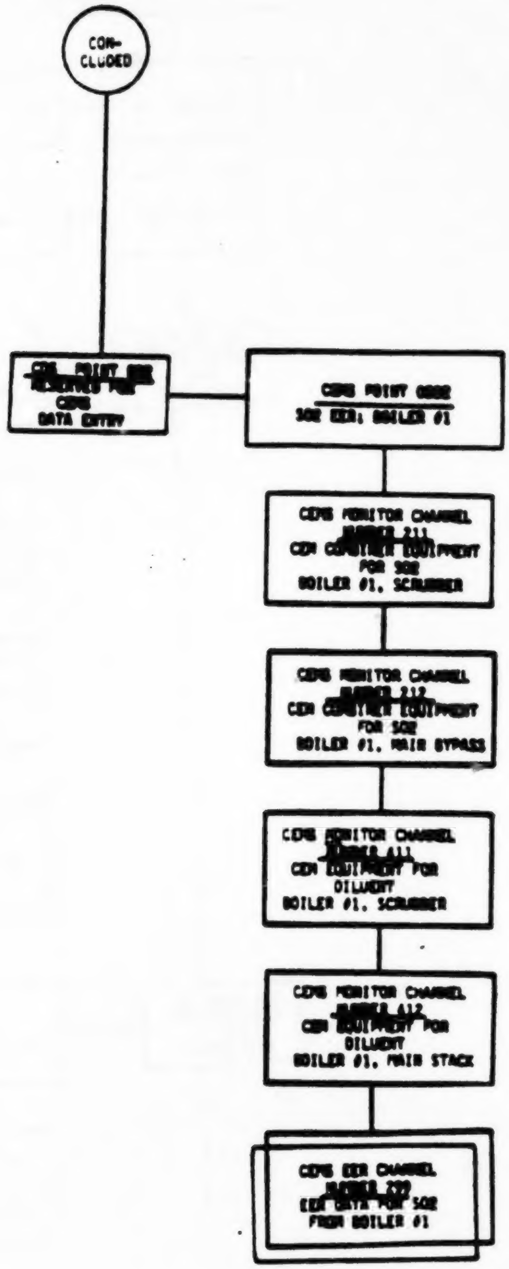

CON-
CLUDED
CDS POINT 000
RESERVED FOR
CEMS
DATA ENTRY
CEMS POINT 0002
SO2 EER; BOILER #1
CEMS MONITOR CHANNEL
NUMBER 211
CEM CONTAINER EQUIPMENT
FOR SO2
BOILER #1, SCRUBBER
CEMS MONITOR CHANNEL
NUMBER 212
CEM CONTAINER EQUIPMENT
FOR SO2
BOILER #1, MAIN BYPASS
CEMS MONITOR CHANNEL
NUMBER 411
CEM EQUIPMENT FOR
DILUENT
BOILER #1, SCRUBBER
CEMS MONITOR CHANNEL
NUMBER 412
CEM EQUIPMENT FOR
DILUENT
BOILER #1, MAIN STACK
CEMS EER CHANNEL
NUMBER 299
EER DATA FOR SO2
FROM BOILER #1

Figure 2. CIPS, Newton, Structure (concluded)

Specific point number/channel number coding examples are as follows:

EXAMPLE 1: A source sends in three EERs (opacity, SO_2, and NO_x) per quarter for two boilers venting to one stack. There are two opacity monitors, one on each duct to the stack. A combined SO_2/NO_x monitor and CO_2 monitor are installed on the stack. In CDS there will be three PTNOs established for tracking this CEM/EER data in CEMS:

CDS POINT	CDS POINT PROCESS DESCRIPTION	CEMS CHANNEL
500	OPAC EER; BOILERS 1 & 2	111 - Opacity monitor on one duct
		112 - Opacity monitor on other duct
		199 - Opacity EER for Boilers 1 & 2

CDS POINT	CDS POINT PROCESS DESCRIPTION	CEMS CHANNEL
501	SO2 EER; BOILERS 1 & 2	211 - SO_2 monitor on stack
		299 - SO_2 EER for Boilers 1 & 2
		411 - CO_2 monitor on stack

CDS POINT	CDS POINT PROCESS DESCRIPTION	CEMS CHANNEL
502	NOX EER; BOILERS 1 & 2	311 - NO_x monitor on stack
		399 - NO_x EER for Boilers 1 & 2
		411 - CO_2 monitor in stack

EXAMPLE 2: A source sends in three EERs (opacity and two SO_2) for two boilers venting to one stack. There is one opacity monitor on the stack and an SO_2 and an O_2 monitor on each duct to the stack. In CDS/CEMS there will be three emission point numbers established:

CDS POINT	CDS POINT PROCESS DESCRIPTION	CEMS CHANNEL
500	OPAC EER; BOILERS 1 & 2	111 - Opacity monitor on stack
		199 - Opacity EER for Boilers 1 & 2

CDS POINT	CDS POINT PROCESS DESCRIPTION	CEMS CHANNEL
501	SO2 EER; BOILER 1	211 - SO_2 monitor on #1 duct 299 - SO_2 EER for Boiler 1 411 - O_2 monitor on #1 duct
502	SO2 EER; BOILER 2	211 - SO_2 monitor on #2 duct 299 - SO_2 EER for Boiler 2 411 - O_2 monitor on #2 duct

EXAMPLE 3: A source sends in four EERs for two separate boilers, one of which is subject to SUBPART Da. One boiler (Boiler #1) has only an opacity monitor on its stack. The SUBPART Da boiler (Boiler #2) has two opacity monitors: one on each section of the split breaching between the electrostatic precipitator (ESP) and the flue gas desulfurization (FGD) unit. Two SO_2 monitors are present: one on the stack and the other monitoring the two inlet ducts to the FGD. One CO_2 monitor is on the stack and two NO_x monitors are present: one on the stack and the other on the inlet to the ESP. In CDS, there will be four emission points coded:

CDS POINT	CDS POINT PROCESS DESCRIPTION	CEMS CHANNEL
500	OPAC EER; BOILER 1	111 - Opacity monitor on Boiler 1 199 - Opacity EER for Boiler 1

CDS POINT	CDS POINT PROCESS DESCRIPTION	CEMS CHANNEL
501	OPAC EER; BOILER 2	111 - Opacity monitor, Boiler 2, duct A 112 - Opacity monitor, Boiler 2, duct B 199 - Opacity EER Boiler 2

CDS POINT	CDS POINT PROCESS DESCRIPTION	CEMS CHANNEL
502	SO2 EER; BOILER 2	211 - SO_2 monitor, Boiler 2, stack 212 - SO_2 monitor, Boiler 2, ducts 295 - SO_2 % reduction report 299 - SO_2 EER, Boiler 2 411 - CO_2 monitor, Boiler 2 stack

CDS POINT	CDS POINT PROCESS DESCRIPTION	CEMS CHANNEL
503	NOX EER; BOILER 2	311 - NO_x monitor on Boiler 2 stack 312 - NO_x monitor on Boiler 2 ESP duct 395 - NO_x % reduction report 399 - NO_x EER for Boiler 2 411 - CO_2 monitor on Boiler 2 stack

EXAMPLE 4: An NSPS refinery sends in six EERs (1 opacity, 1 carbon monoxide, 3 sulfur dioxide, and 1 hydrogen sulfide) per quarter for a fluid catalytic cracking unit (FCCU), a Claus sulfur recovery plant, fuel gas combustion, and a sulfuric acid plant. The FCCU is equipped with an opacity monitor, a carbon monitor, a sulfur dioxide monitor, and an oxygen monitor in the stack. The Claus unit has an oxygen monitor on the stack of its oxidation control system. There is also a sulfur dioxide probe on the Claus unit stack and one on the sulfuric acid plant stack from a sulfur dioxide monitoring system that is time-shared between those two units. Hydrogen sulfide is monitored in the fuel gas line leaving the desulfurization plant. In CDS there will be six PTNO's established for tracking this CEM/EER data.

CDS POINT	CDS POINT PROCESS DESCRIPTION	CEMS CHANNEL
500	OPAC EER; FCCU	111 opacity monitor on FCCU stack 199 opacity EER for FCCU
501	CO EER; FCCU	811 CO monitor on FCCU stack 899 CO EER for FCCU
502	SO2 EER; FCCU	211 SO2 monitor on FCCU stack 299 SO2 EER for FCCU 411 O2 monitor on FCCU stack
503	SO2 EER; CLAUS S. RCVY	211 SO2 monitor probe Δ1 on Claus plant 299 SO2 EER for Claus plant 411 O2 monitor on Claus plant stack
504	SO2 EER; H2SO4 plant	211 SO2 monitor probe Δ2 on sulfuric acic plant stack 299 SO2 EER for sulfuric acid plant
505	H2S EER; Fuel gas plant	711 H2S monitor on fuel gas line 799 H2S EER for fuel gas plant

Region V has designed a CEM Monitor Information form to assist in presenting information for accurate coding under the Region V coding conventions. This form should be completed by a person familiar with the source. If there is no one in-house with the needed data, the Monitor Information form should be sent to the State or to the source for completion. The completed form should provide all needed monitor information as well as a graphical depiction of the monitor/source relationship. Conscientiously completed forms will make channel coding a simple task. Following are examples of completed Monitor Information forms and corresponding structure charts depicting the point channel relationships derived from the completed forms.

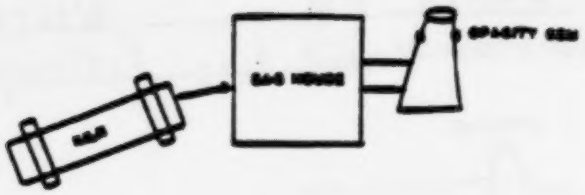
CEM MONITOR INFORMATION

CDS I.D. NO. Region 05 State 14 County 1540 Source 60007

SOURCE NAME & ADDRESS: MARBLEHEAD LIME Co Chicago

PLANT NAME & UNIT PROCESS/DESCRIPTION: CALCINING KILN #5

DIAGRAM:

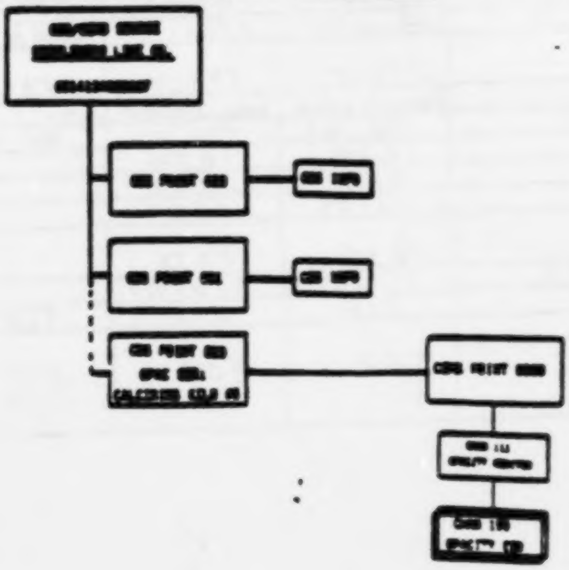

OPACITY CEM
BAG HOUSE
KILN

PERMISSIBLE EMISSION LIMIT:

POLLUTANT	EMISSION STANDARD			
OPACITY	10	%	6	Minute Average
SULFUR DIOXIDE		lbs/MMBTU		(Average Time)
		lbs/Hr.		
		lbs/Ton		(Product)
		PPM		% O_2
Nitrogen Oxides		lbs/MMBTU		(Average Time)
		lbs/Hr		
		lbs/Ton		(Product)
Other				

UNITS	Kiln #5				
MONITOR SYSTEM(S)	opacity				
POLLUTANT	opacity				
EXACT LOCATION (Duct/Stack)	Stack				
MANUF.	[illegible]				
MODEL NO.	[illegible]				
SERIAL NO.	377				
INSTALL. DATE					
CERT/AUDIT DATE					
[illegible] STATUS (Pass/Fail)					
RECERTIFICATION DATE					
MONITOR [illegible]	[illegible]				
OPACITY MON. ONLY PTHS CHAN LEA	500 111				

CDS/CEMS STRUCTURE FOR CODING


CDS POINT
CDS INFO
CDS POINT
CDS INFO
CDS POINT
CALCINING KILN #5
CEMS POINT

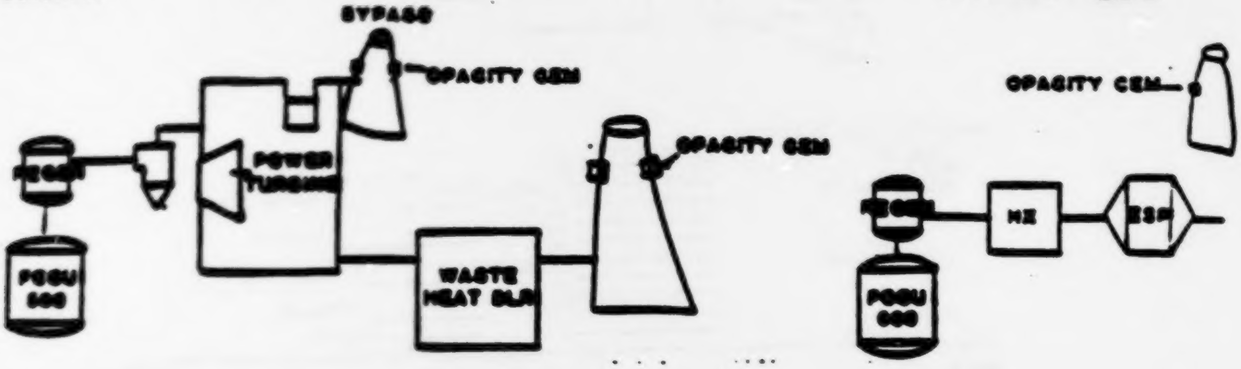
CEM MONITOR INFORMATION

CDS I.D. NO: Region 05 State 15 County 2340 · Source 00003

SOURCE NAME & ADDRESS: Amoco Oil Whiting, Indiana

PLANT NAME & UNIT PROCESS/DESCRIPTION: Whiting Refinery FCCU 500 + FCCU 600

DIAGRAM:

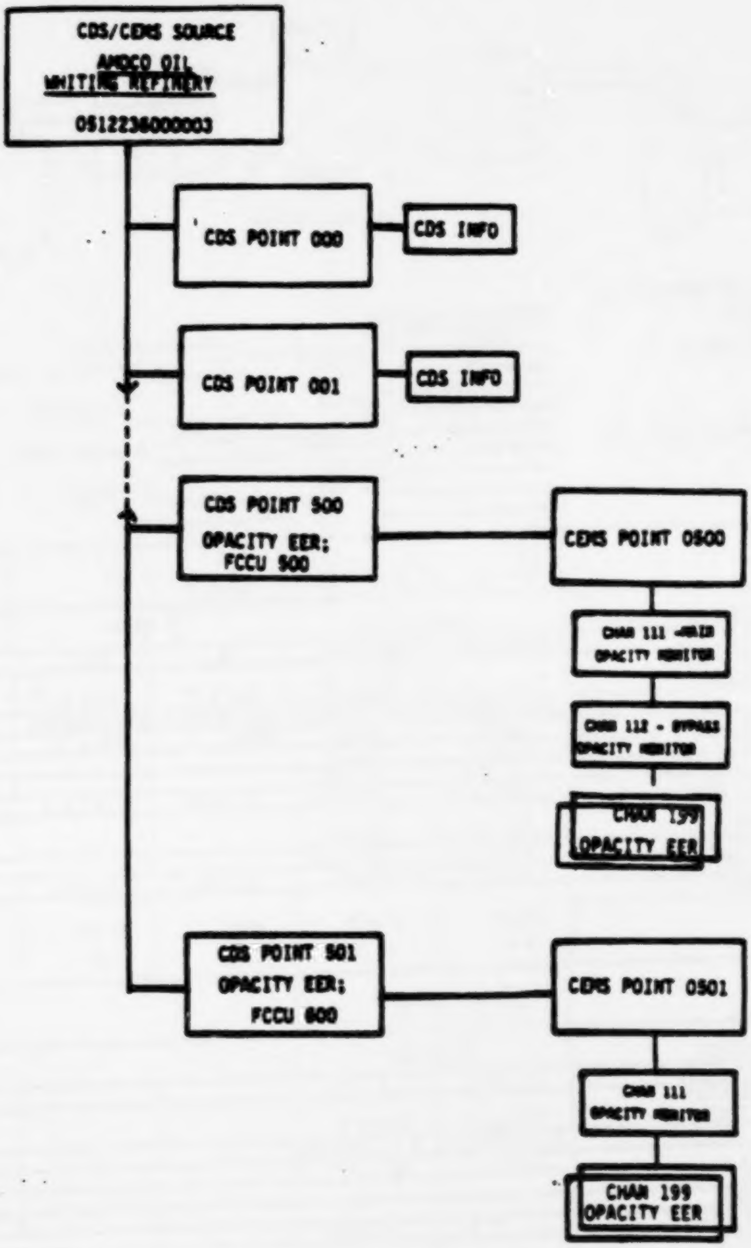

BYPASS
OPACITY CEM
OPACITY CEM
OPACITY CEM
REGEN
POWER TURBINE
FCCU
WASTE HEAT BLR
REGEN
HX
ESP
FCCU

PERMISSIBLE EMISSION LIMIT:

POLLUTANT	EMISSION STANDARD		
OPACITY	40 %	6	Minute Average
SULFUR DIOXIDE		lbs/MMBTU	(Average Time)
		lbs/Hr.	
		lbs/Ton	(Product)
		PPM	SO_2
Nitrogen Oxides		lbs/MMBTU	(Average Time)
		lbs/Hr	
		lbs/Ton	(Product)
Other			

UNITS	FCCU 500		FCCU 600		
MONITOR SYSTEM(S)	MAIN	BYPASS	opacity		
POLLUTANT	opacity	opacity	opacity		
EXACT LOCATION (Duct/Stack)	STACK	STACK	STACK		
MANUF.	Lear Siegler	Lear Siegler	Lear Siegler		
MODEL NO.	RM 41	RM 41	RM 41		
SERIAL NO.	1610	1934			
INSTALL DATE	9/81	3/83			
PST/AUDIT DATE	12/82	12/83			
PST STATUS (Pass/Fail)	PASS	PASS			
CERTIFICATION DATE	5/16/83	9/14/83			
MONITOR REQ. BY	SIP	SIP	SIP		
OFFICE USE ONLY					
PTNO CHAN LEA	500 111	500 112	501 111		

CDS/CEMS STRUCTURE FOR CODING


CDS/CEMS SOURCE
AMOCO OIL
WHITING REFINERY
0512236000003
CDS POINT 000
CDS INFO
CDS POINT 001
CDS INFO
CDS POINT 500
OPACITY EER;
FCCU 500
CEMS POINT 0500
CHAN 111 - MAIN
OPACITY MONITOR
CHAN 112 - BYPASS
OPACITY MONITOR
CHAN 199
OPACITY EER
CDS POINT 501
OPACITY EER;
FCCU 600
CEMS POINT 0501
CHAN 111
OPACITY MONITOR
CHAN 199
OPACITY EER

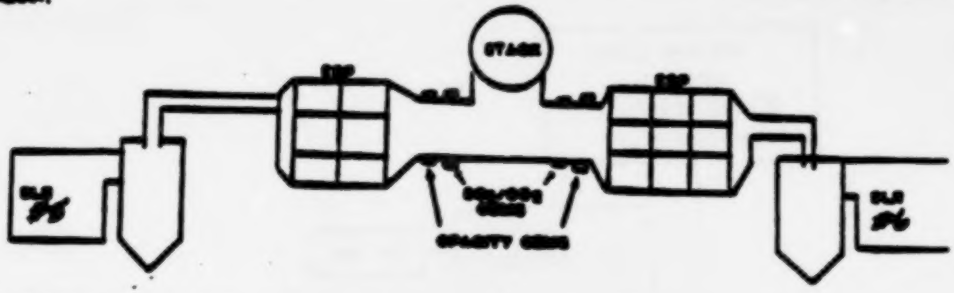
CEM MONITOR INFORMATION

CDS I.D. NO: Region 05 State 24 County 1660 · Source 90001

SOURCE NAME & ADDRESS: BLANDIN PAPER Co. ; Grand Rapids, Minn

PLANT NAME & UNIT PROCESS/DESCRIPTION: BLANDIN Boilers Units 5 & 6

DIAGRAM:



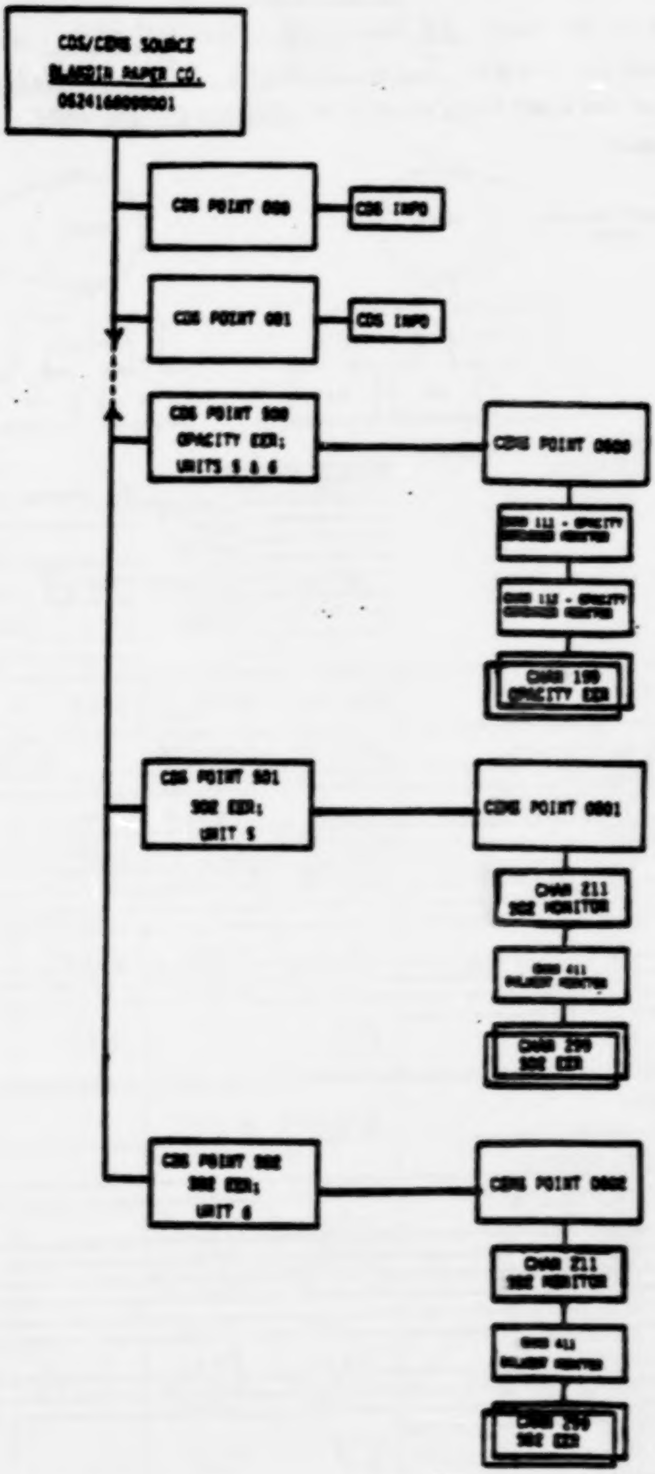
PERMISSIBLE EMISSION LIMIT:

POLLUTANT	EMISSION STANDARD			
OPACITY	20	%	6	Minute Average
SULFUR DIOXIDE	1.2	lbs/MMBTU	3 HR	(Average Time)
		lbs/Hr.		
		lbs/Ton		(Product)
		PPM		%
Nitrogen Oxides		lbs/MMBTU		(Average Time)
		lbs/Hr		
		lbs/Ton		(Product)
Other				

UNITS	Units 5+6		Unit 5		
MONITOR SYSTEM(S)	COMBINED		SO2		
POLLUTANT	OPACITY	OPACITY	SO2	SO2	
EXACT LOCATION (Duct/Stack)	DUCT	DUCT	DUCT	DUCT	
MAKE,	CONTRAVES	CONTRAVES	CONTRAVES	CONTRAVES	
MODEL NO.	400	400	GEM 1	GEM 1	
SERIAL NO.	[illegible]	[illegible]			
INSTALL. DATE	8/82	8/82			
PST/AUDIT DATE	10/82	10/82	9/82	9/82	
PST STATUS (Pass/Fail)	PASS	PASS			
CERTIFICATION DATE	[illegible]	[illegible]			
MONITOR REQ. BY	NSPS	NSPS	NSPS	NSPS	
OFFICE USE ONLY					
PTMD CHAN LSA	500 111	500 112	501 211	501 411	

UNITS	Unit #6				
MONITOR SYSTEM(S)	SO2				
POLLUTANT	SO2	CO2			
EXACT LOCATION (Duct/Stack)	DUCT	DUCT			
MAKE,	CONTRAVES	CONTRAVES			
MODEL NO.	GEM-1	GEM-1			
SERIAL NO.					
INSTALL. DATE					
PST/AUDIT DATE	9/82	9/82			
PST STATUS (Pass/Fail)	PASS	PASS			
CERTIFICATION DATE					
MONITOR REQ. BY	NSPS	NSPS			
OFFICE USE ONLY					
PTMD CHAN LSA	502 211	502 411			

CDS/CEMS STRUCTURE FOR CODING


CDS/CEMS SOURCE
BLANDIN PAPER CO.
0524160000001
CDS POINT 000
CDS INFO
CDS POINT 001
CDS INFO
CDS POINT 500
OPACITY EER;
UNITS 5 & 6
CEMS POINT 0000
CODE 111 - OPACITY
CODE 112 - OPACITY
CHAR 199
OPACITY EER
CDS POINT 501
SO2 EER;
UNIT 5
CEMS POINT 0001
CHAR 211
SO2 MONITOR
CODE 411
DILUENT MONITOR
CHAR 299
SO2 EER
CDS POINT 502
SO2 EER;
UNIT 6
CEMS POINT 0002
CHAR 211
SO2 MONITOR
CODE 411
DILUENT MONITOR
CHAR 299
SO2 EER

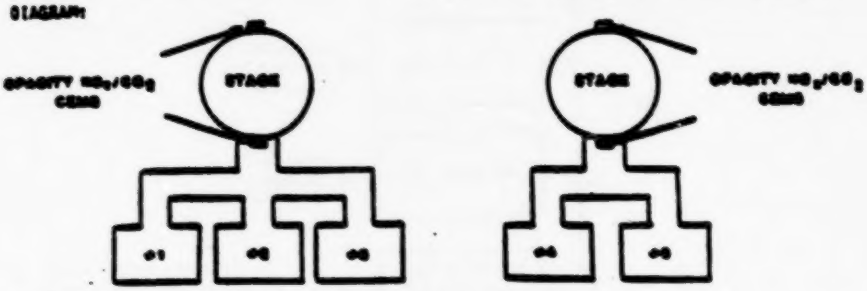
CEM MONITOR INFORMATION

CDS I.D. NO: Region 05 State 14 County 3060 · Source 90006

SOURCE NAME & ADDRESS: Commonwealth Edison - Collins Morris, IL

PLANT NAME & UNIT PROCESS/DESCRIPTION: COLLINS BOILERS 1-5

DIAGRAM:



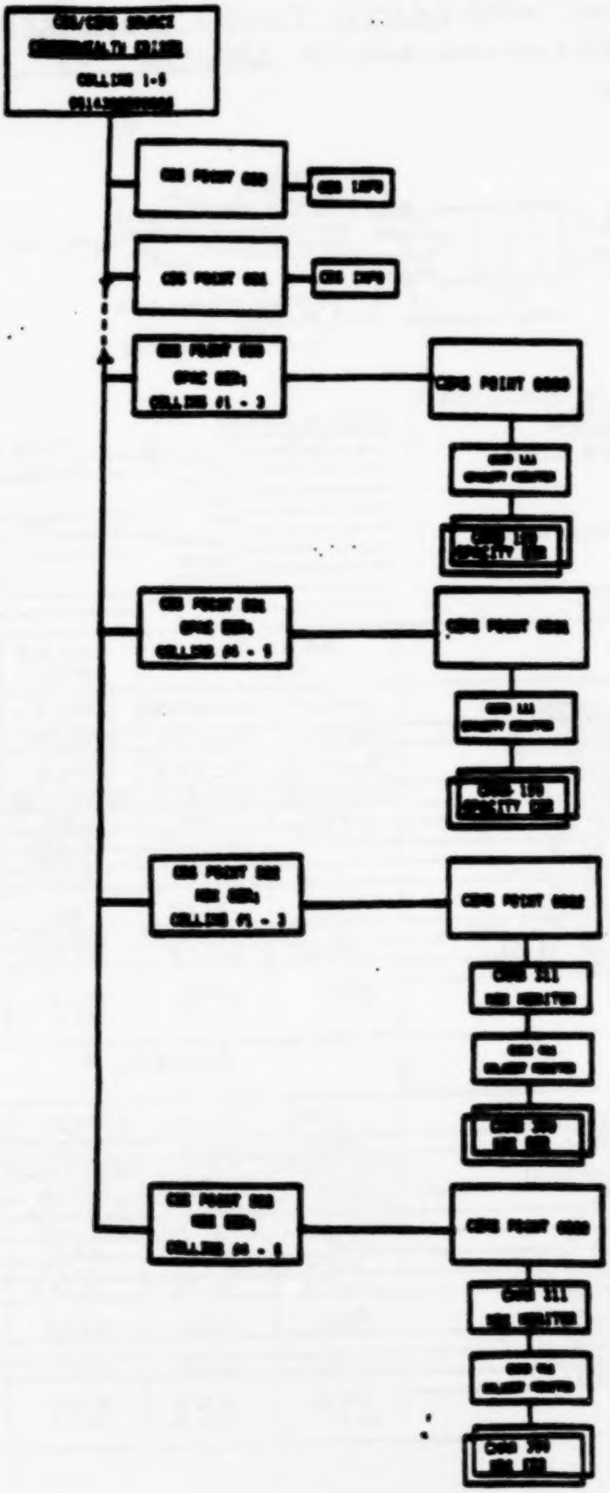
PERMISSIBLE EMISSION LIMIT:

POLLUTANT	EMISSION STANDARD			
OPACITY	20	%	6	Minute Average
SULFUR DIOXIDE		lbs/MMBTU		(Average Time)
		lbs/Hr.		
		lbs/Ton		(Product)
		PPM		
Nitrogen Oxides	0.30	lbs/MMBTU	3 HR	(Average Time)
		lbs/Hr		
		lbs/Ton		(Product)
Other				

UNITS	BLRS 1-3	BLRS 4 & 5	BLRS 1 - 3		
MONITOR SYSTEM(S)	OPACITY	OPACITY	NOX		
POLLUTANT	OPACITY	OPACITY	NOX	CO2	
EXACT LOCATION (Duct/Stack)	STACK	STACK	STACK	STACK	
MANUF.	Lear Siegler	Lear Siegler	[illegible]	[illegible]	
MODEL NO.	RM 41	RM 41	[illegible] 1200	[illegible]	
SERIAL NO.	581030	581031	24191-1	24191-1	
INSTALL DATE					
PST/AUDIT DATE			7/80	7/80	
PST STATUS (Pass/Fail)	PASS	PASS	PASS	PASS	
CERTIFICATION DATE	12/13/79	12/13/79	[illegible]	[illegible]	
MONITOR REQ. BY	NSPS	NSPS	NSPS	NSPS	
OFFICE USE ONLY PTNO CHAN LEA	500 111	501 111	502 311	502 411	

UNITS	BOILERS 4 & 5				
MONITOR SYSTEM(S)	NOX				
POLLUTANT	NOX	CO2			
EXACT LOCATION (Duct/Stack)	STACK	STACK			
MANUF.	[illegible]	[illegible]			
MODEL NO.	[illegible] 1200	[illegible] 1200			
SERIAL NO.	24191-2	24191-2			
INSTALL DATE					
PST/AUDIT DATE	7/80	7/80			
PST STATUS (Pass/Fail)	PASS	PASS			
CERTIFICATION DATE	12/13/79	2/11/80			
MONITOR REQ. BY	NSPS	NSPS			
OFFICE USE ONLY PTNO CHAN LEA	503 311	503 411			

CDS/CEMS STRUCTURE FOR CODING



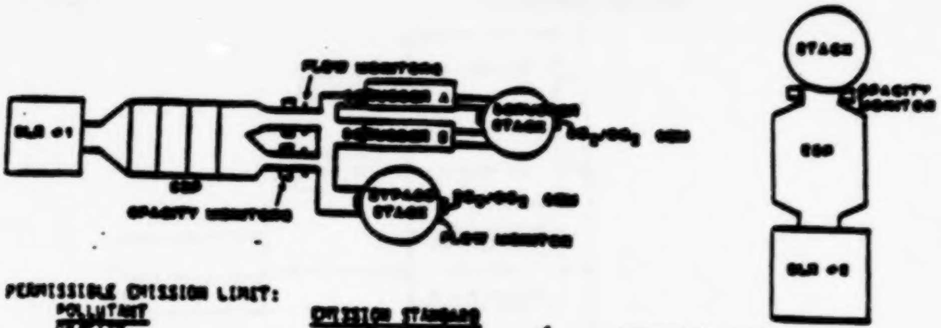
CEM MONITOR INFORMATION

CDS I.D. NO: Region 05 State 14 County 3620 Source 90001

SOURCE NAME & ADDRESS: CENTRAL ILLINOIS PUBLIC SERVICE NEWTON, IL

PLANT NAME & UNIT PROCESS/DESCRIPTION: NEWTON #1 & #2

DIAGRAM:


FLOW MONITORS
SCRUBBER A
SCRUBBER B
BLR #1
ESP
OPACITY MONITORS
SCRUBBER STACK
SO_2/CO_2 CEM
BYPASS STACK
SO_2/CO_2 CEM
FLOW MONITOR
STACK
OPACITY MONITOR
ESP
BLR #2

PERMISSIBLE EMISSION LIMIT:

POLLUTANT / EMISSION STANDARD

OPACITY 20 % 6 Minute Average

SULFUR DIOXIDE 1.2 lbs/MMBTU 3 HR. (Average Time)

lbs/Hr.

lbs/Ton (Product)

ppm SO_2

Nitrogen Oxides lbs/MMBTU (Average Time)

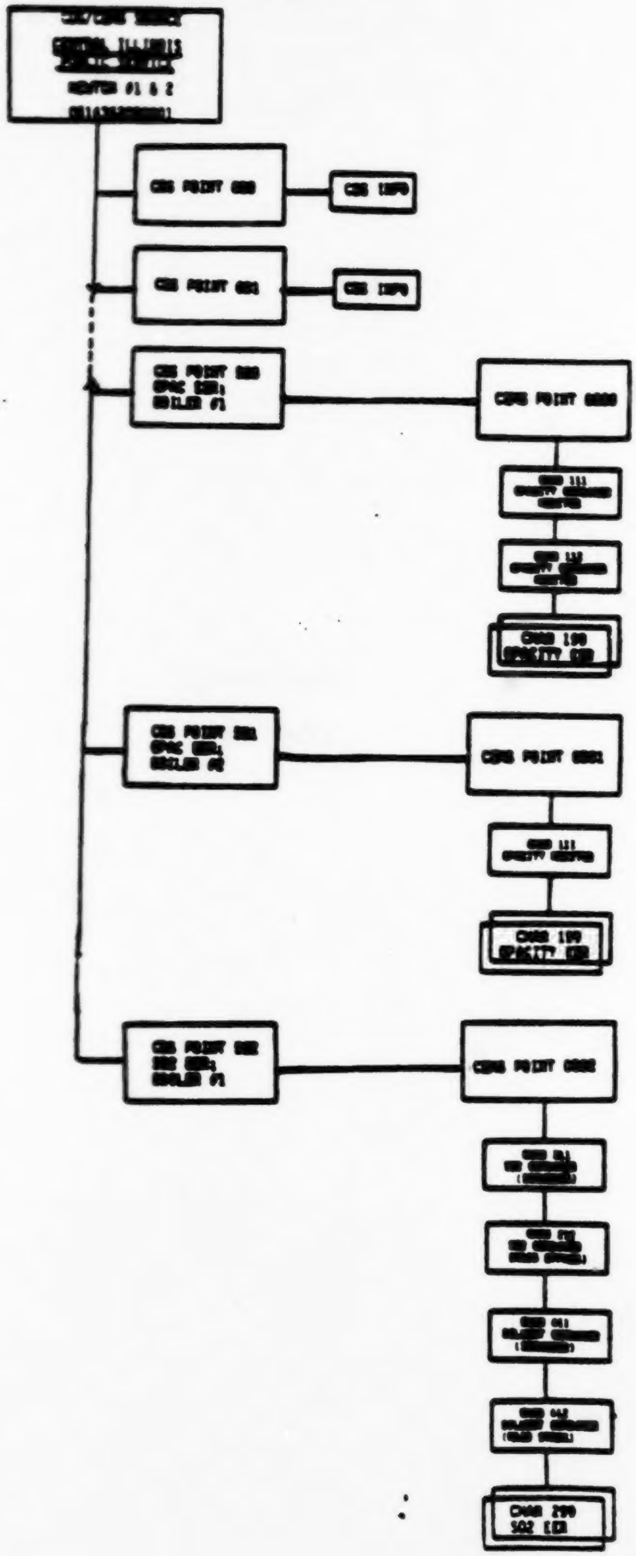
lbs/Hr

lbs/Ton (Product)

Other

UNITS	BOILER #1		BOILER #2	
MONITOR SYSTEM(S)	OPACITY COMBINED		OPACITY	
POLLUTANT	OPACITY	OPACITY	OPACITY	
EXACT LOCATION (Duct/Stack)	DUCT A	DUCT B	STACK	
VENDOR	CONTRAVES	CONTRAVES	CONTRAVES	
MODEL NO.	400	400	400	
SERIAL NO.	1G110-79	1G111-79	[illegible]	
INSTALL DATE			3/78	
PST/AUDIT DATE	1/80	1/80	3/79	
PST STATUS (Pass/Fail)	PASS	PASS	PASS	
CERTIFICATION DATE	1/15/1980	1/15/1980	1/15/79	
MONITOR REQ. BY	NSPS	NSPS	NSPS	
OFFICE USE ONLY PTRO CHAN LEA	500 111	500 112	501 111	
UNITS	BOILER #1			
MONITOR SYSTEM(S)	SO_2 DUAL STACK COMBINED			
POLLUTANT	SO_2	SO_2	CO_2	CO_2
EXACT LOCATION (Duct/Stack)	SCRUBBER STACK	MAIN (BYPASS)	SCRUBBER STACK	MAIN STACK
VENDOR	[illegible]	[illegible]	CONTRAVES	CONTRAVES
MODEL NO.	GEM 100	GEM 100	GEM 100	GEM 100
SERIAL NO.	1125	1124	1125	1124
INSTALL DATE	6/83	6/83	6/83	6/83
PST/AUDIT DATE	12/83	12/83	12/83	12/83
PST STATUS (Pass/Fail)	PASS	PASS	PASS	PASS
CERTIFICATION DATE				
MONITOR REQ. BY	NSPS	NSPS	NSPS	NSPS
OFFICE USE ONLY PTRO CHAN LEA	502 211	502 212	502 411	502 412

CDS/CEMS STRUCTURE FOR CODING


CENTRAL ILLINOIS
#1 & 2
CDS INFO
CDS INFO
BOILER #1
CEMS POINT
CMOD 199
OPACITY
BOILER #2
CEMS POINT
CMOD 199
OPACITY
BOILER #1
CEMS POINT
CMOD 299
SO2

Section 4.0

CEMS INPUT

Section 4.0

CEMS INPUT

The structure of Region V's CEMS coding conventions results in the elimination of some unnecessary coding activities and promotes a more simplified data input process for the following reasons:

1. CDS 500-level points are already reserved for CEMS data.
2. The format for coding the CDS point process description provides a clear indication of the unit or combination of units reporting excess emissions.
3. Assignment of channel numbers is defined according to type of data to be entered.

If the Region receives summarized EERs from the State, then identification of source and point number is the only activity needed before data entry can proceed. Monitor information can be added, updated, or changed without affecting the continuous record of EER data, for example, when one monitor is replaced with another. Diluent monitor information is input under the point where it is used to iterate the final data, but no diluent data are recorded.

The monthly or quarterly EER summaries are all that is needed for continued input of a source's EER history, once that source has been configured in CEMS according to Region V's coding conventions.

CEMS data acquisition is discussed in Volume I and detailed coding instructions are presented in Volume II.

Section 5.0

RETRIEVALS

Section 5.0

RETRIEVALS

Because all of Region V's CEMS data are input in the reserved range of CDS points 500-599, a CEMS retrieval limited to that range will contain only the desired CEMS information. Region V coding conventions require monitor and EER data to be at specific retrievable locations in the data base. A CEMS retrieval can be performed on Region V data without needing to know how a specific source was coded and entered. For example, a retrieval request for CEMS point 0501 and channel 299 would give only SO_2 EER data. A request for any or all of channels 211 to 219 would give any monitor information associated with that EER data. Channel 295 would give percent reduction data.

Because specific data resides at a known location in CEMS, retrieval results reflect a true and accurate count of data for purposes of reporting and statistical analysis. Region V CEMS retrievals have an absence of duplication and no need for cross-referencing.

More detailed information on Region V CEMS retrievals is presented in Volume III.

Section 6.0

GRAPHICS CAPABILITIES

Section 6.0

GRAPHICS CAPABILITIES

To refine and simplify the process of creating report graphics for excess emission report (EER) data, Region V has developed the Regional CEMS Graphics System (RCGS) computer software package.

Because CEMS data for Region V are constrained to specific points and channels, computer programs can accurately locate and manipulate data for graphing.

The user-friendly RCGS automates several steps in the graphing process, which were previously performed by hand, were time consuming, and were subject to mathematical/typographical error.

The RCGS software performs three basic processes:

1. It generates a formatted CEMS retrieval report of EER data, by reporting period, per pollutant.
2. It recomputes each EER data retrieved in 1 above as a percent of total source operating time and generates a second report.
3. It transcribes data from the percent report into a TELL-A-GRAF source code data set, which will be used to execute one of two different graphing options. This source code is also printed out with the exceedances and percents reports.

RCGS is an interactive system using a TSO CLIST prompter program. Three options are available to the user at sign-on:

A. Percent exceed report

B. Mont Downtime versus Exceed (graph)

C. Total exceed (graph).

Option A

Using this option, the user can run a preformatted retrieval of EER data for any number of sources and any number of reporting periods per pollutant.

The output from using Option A will be a computer printout that contains:

1. The EER exceedance report for the requested source(s) reporting periods.
2. A report of the reasons for exceedances as a percent of total source operating time.

Option B

The output from the selection of Option B will be the exceedances and percents reports as described in Option A. In addition, RCGS uses the percent data to generate a TELL-A-GRAF source code data set, which is also listed.

This data set (which will have been named by the user during the interactive session), when executed under TELL-A-GRAF in TSO, will produce a line graph of total exceedances as a percent of source operating time, which is superimposed on a bar graph of monitor downtime as percent of source operating time.

Option C

Option C output is the same as described for Option B, but the TELL-A-GRAF source code data set generated, when executed in TSO, will produce a line graph of each of the four reasons for excess emissions (startup/shutdown, sootblowing, equipment/process malfunction, unknown), as a percent of total source operating time, with a fifth line representing total exceedances as a percent of total source operating time.

The retrieval selection criteria for these three options can be created, modified, left unchanged, or completely redone by the user either in OBS Wylbur or in TSO. In OBS Wylbur, the selection criteria data sets must be saved in the "CARD" format so they will work under TSO.

Option A allows retrieval selection criteria to include unlimited sources/pollutants/reporting periods.

In order to produce meaningful graphs with Options B and C, however, the retrievals must be limited to one source and one pollutant and can include between 4 and 12 reporting periods of data. Examples of Option B and C graphs are in Appendix A.

The fact that Region V's coding conventions eliminate duplication of data enhances the accuracy of these graphs.

More detailed information on how to use RCGS is presented in Volume III.

Section 7.0

STATISTICS

Section 7.0

STATISTICS

As with the canned graphics programs in Region V, canned statistical programs will be available to enable the user to more swiftly and simply manipulate EER data for compliance evaluations and reports. Because we know exactly where the data are in Region V CEMS, statistical calculations for the Region are assured a high degree of accuracy. For example, the coding conventions allow for a true baseline count of data for different classes of sources, by type of source, by applicable regulation, by jurisdictions, or by permissible emission limit values. Volume III presents CEMS retrieval procedures that can be tailored to aid in various tabulations and statistical presentations.

BRIEFING ON CEMSS STATUS

FOR JOHN RASNIC 6/5/87

ISSUE: Should CEMSS contain fields to record compliance information on all NSPS sources subject to CEMS requirements?

BACKGROUND: The most recent relevant guidance was sent out on October 5, 1984. The guidance states that it is, "inapplicable to Subpart Da or other sources where CEMS is the compliance method." Accordingly, CEMSS has not been designed for such sources. Nor are there resources targeted in FY '87 to do so.

STATUS: A CEMSS User Guide was sent out last month in draft incorporating consistent input conventions and listing required fields. Reviews from Regions I and IV were quite positive.

RECOMMENDATIONS:

1. Finalize the User Guide. It represents a major improvement in the CEMSS.
2. Develop a plan to add a capability to record the compliance status of Da sources, and sources which are able to option out of NSPS CEMS requirements.

6/4/87